

FLIGHT

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

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Flight.

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CONTENTS.

Editorial Comment:	PAGE
War in the Air	799
The Central Flying School at Upavon	802
What Tail-Sliding on a Blériot feels like. By Marcus Manton	807
Royal Aero Club Official Notices	808
From the British Flying Grounds	810
Eddies. By "Æolus"	812
The Donath Signal Mirror	815
An Aerodynamic Balance	816
Prensiel Life-Saving Parachute	816
Aerodrome and Exhibition Flying	817
Correspondence	820
Models. Edited by V. E. Johnson, M.A.	821

EDITORIAL COMMENT.

War in the Air.

Had Mr. H. G. Wells been a less famous author than he is, his story "The War in the Air," which was published some six years ago, would in all probability have been treated as the product of the imagination of an amiable lunatic. At that time dynamic flight had actually been achieved, but that is about all that could have been said of the matter. It was a vivid, enthrallingly interesting story, but one which, even to those who were most closely in touch with contemporary flying, was scarcely convincing, save as such a prophecy as might have been indulged by a thirteenth century writer inditing a story of Waterloo, and describing how men were mown down by Brown Besses and smooth-bore cannon. Apparently, Mr. Wells was at least half-a-century too early in the date he fixed for his world-war in the sky, but the indications of the moment are, unfortunately, all pointing to a too painful accuracy of the forecast.

As we write Europe is arming in preparation for a war which, unless it can be averted, will constitute at once the most colossal catastrophe, and the worst crime against civilisation in all history. That it may be averted by wise and sane statesmanship is the earnest desire of the least responsible of us. But if it *must* come, then at least we have the comforting knowledge that we are prepared at all points, and we can look at the future with the quiet confidence with which we as a nation have

always approached these times of acute crisis in our history.

If this catastrophe of war should be let loose, what shape will it take initially, and what bearing will the air-fleets of the nations have on the ultimate results? Almost beyond doubt the first move will be made by aircraft, but who can say what their work will be? Naturally, reconnaissance will be the first and principal object, but it can hardly be imagined that they will be allowed to carry it out without interruption from hostile air fleets. And then what will happen? Will there be fought fleet actions in the air, or how will things work out? Will the slow craft be used as a covering force to retard the movements of the enemy's craft while the faster machines urge their way back with the information that has been secured? Will it be found that aircraft after all are comparatively valueless to their armies because of the impossibility to collect information of vital consequence because of the enemy's craft? Shall we find that the possession of comparatively equal air forces will bring about a position of stalemate, in which both sides find that the game is not worth the candle in view of the enormous casualty bill consequent on the meeting of two hostile air-fleets? Or will it be found that machines will be able to come and go almost without let or hindrance owing to the utter uncertainty of finding each other over the vast areas they will cover? All these are questions that only the real thing can answer. Without pretending to any deep military knowledge, or to be able to exactly assess the value of these things, we cannot say that anything approaching reality can possibly be judged by the results of peace manoeuvres where aircraft are concerned. They seem to have far less approximation to the conditions of real war than is the case with any other service or branch of service. For example, the probable results of an infantry attack in manoeuvres can be assessed with tolerable certainty, because of the many known factors that enter into the calculations. The strength of the position and the number and discipline of the men holding it; the *morale* of the attacking troops; the nature of the ground over which the attack has to be delivered; and comparative strength in artillery. All these are matters which can be duly weighed by expert umpires and the lessons and conclusions based on decisions given in the field are possibly not very far out.

Again, although the naval experts have not the same

fund of active experience of the behaviour of modern ships and armaments in serious actions to draw upon as have their colleagues in the sister Service, manœuvre calculations can be brought reasonably near the mark because of the number of exact factors that enter into them. Number of ships and weight of armament concentrated at a particular moment in a particular place as compared with those of the enemy will govern a decision, principally because we know exactly how those ships would be used were the business one of serious war instead of make-believe. Therefore, leaving out the always unknown quantity of the comparative tactical fitness of the respective commanders, who would be pitted against each other, we can arrive at a very just approximation of what would be likely to happen. But in the case of aircraft the lessons of manœuvres must be applied to real war with a great many reservations, because we are really entirely

ignorant of the things that are likely to happen—we have no line through past performance in war—or at any rate in war in which both sides possessed anything properly describable as an air force—upon which to base a sound judgment. But, after all, these things must be left in the lap of Time. We can only hope that we are not in reality on the verge of learning the grim lessons that a big European war has in store for us.

So far as our own aerial forces are concerned, we can at least say that we feel more comfortable about their preparedness and efficiency than if this crisis had had to be faced even a year ago. Our seaplanes are as good as any—probably better—and we have a sufficient superiority in numbers. Our *personnel* we have the utmost confidence in. If IT comes, we know they will acquit themselves to the full in accordance with the best traditions of the two Services—and more than that it is impossible to say.

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ROYAL FLYING CORPS.

THE following appointment was announced by the Admiralty on the 24th inst. :—

Commander R. M. Groves, to "President," additional, for service in the air department, temporary. July 12th.

The following appointments were announced by the Admiralty on the 25th inst. :—

Flight Lieuts. F. W. Bowhill, to the "Pembroke," additional, for duty at the Central Air Office, and W. C. Hicks, to the "Pembroke," additional, for Kingsnorth Naval Air Station, and for Naval Airship No. 3. Both to date July 24th.

Carpenter J. V. Collins, appointed Warrant Officer (Second Grade) in the Royal Naval Air Service. July 1st.

The following appointments were announced by the Admiralty on the 29th inst. :—

Hugh C. Fuller has been entered as Probationary Flight Sub-Lieutenant, and appointed to the "Pembroke," additional, for Farnborough Naval Air Station, July 25th.

The Daily Mail Circuit of Britain.

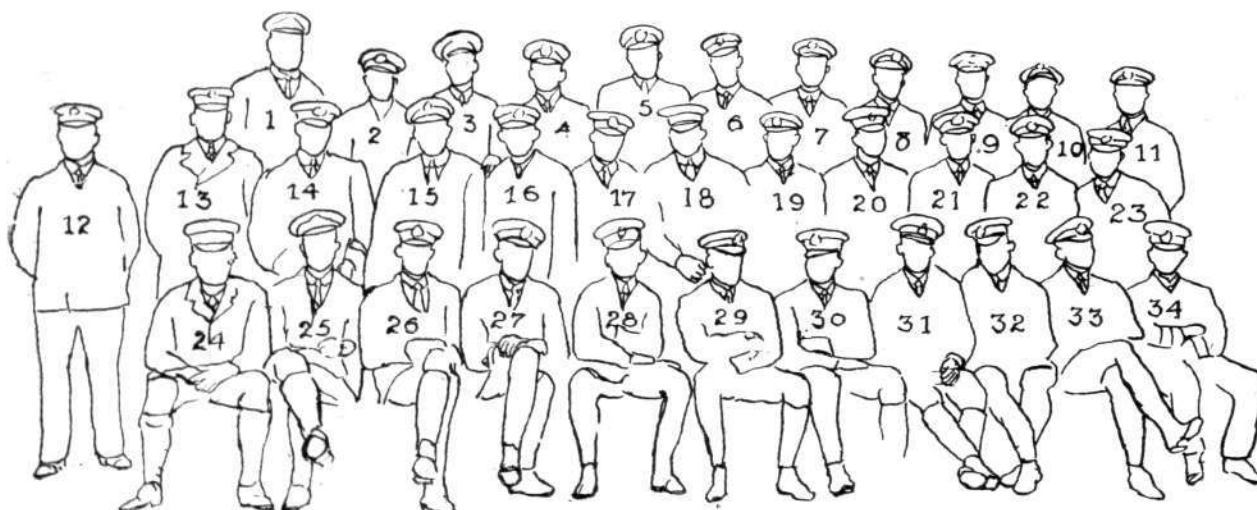
AMONG the official notices of the Royal Aero Club on page 808 will be found some further details regarding the nine machines which have been entered for the *Daily Mail* Circuit of Britain. It will be seen that Mr. Victor Mahl is to pilot the Gnome-Sopwith to which

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is assigned No. 1, and for which Mr. H. G. Hawker was originally nominated as pilot; Lieut. C. H. Collet is to pilot the Beardmore D.F.W. biplane with 120 h.p. Beardmore-Austro-Daimler engine which is No. 2; while C. H. Pixton will start on No. 3, the Sunbeam-Sopwith batboat. It will be noticed that Mr. Claude Grahame-White has been nominated as the pilot of the Grahame-White machine, Full particulars are also given with regard to the various controls as well as the names of the gentlemen who are so willingly giving their services as officials at the different places. The official information regarding the exemptions granted under the Aerial Navigation Acts is also set out in full.

The Gordon-Bennett Race.

IT will be noticed with regret from an official announcement by the Royal Aero Club on p. 809 that the British and Colonial Aeroplane Co., Ltd., have had to withdraw from the Gordon-Bennett Race owing to the pressure of work in other directions. The Royal Aero Club has decided not to hold the proposed eliminating trials at Upavon, but if such trials are necessary they will be held at Buc a few days prior to the actual race, which is fixed to take place on September 27th and 28th. The remaining entrants are the Sopwith Aviation Co., Ltd., A. V. Roe and Co., Ltd., Messrs. Vickers, Ltd., and the Cedric Lee Co., Ltd.



OFFICERS OF THE ROYAL NAVAL AIR SERVICE AT CALSHOT DURING THE RECENT NAVAL DEMONSTRATION AT SPIHEAD.—Key to group on page 801.

From left to right:—

Back row:—(1) Staff-Surgeon O'Connell, (2) F. Lt. F. G. Brodribb, (3) F. Lt. A. J. Mackean, (4) F. Lt. E. R. C. Nanson, (5) F. Lt. Lord Ed. Grosvenor, (6) F. Lt. I. G. V. Fowler, (7) F. Lt. W. G. Sitwell, (8) F. Lt. R. H. Kershaw, (9) F. Lt. D. Hyde-Thomson, (10) F. Lt. R. P. Ross, (11) F. Lt. H. A. Busk.

Middle row:—(12) Mr. W. A. Hancock, (13) Mr. F. W. Scarff, (14) F. Lt. H. A. Williamson, (15) F. Lt. Cave-Browne-Cave, (16) F. Lt. J. T. Cull, (17) F. Lt. F. W. Bowhill, (18) F. Lt. A. C. Barnby, (19) F. Lt. E. T. R. Chambers, (20) F. Lt. H. Fawcett, (21) F. Lt. A. W. Bigsworth, (22) Squad.-Commr. J. W. Seddon, (23) F. Lt. R. J. Bone.

Seated:—(24) F. Commr. C. E. Rathbone, (25) F. Commr. I. T. Babington, (26) F. Commr. D. A. Oliver, (27) F. Commr. F. E. T. Hewlett, (28) Squad.-Commr. C. E. Risk, (29) Wing-Commr. F. R. Scarlett, (30) Squad.-Commr. A. M. Longmore, (31) Squad.-Commr. R. Gordon, (32) Squad.-Commr. R. H. Clark-Hall, (33) F. Commr. J. L. Travers, (34) Staff-Surgeon O'Hea.

JULY 31, 1914.

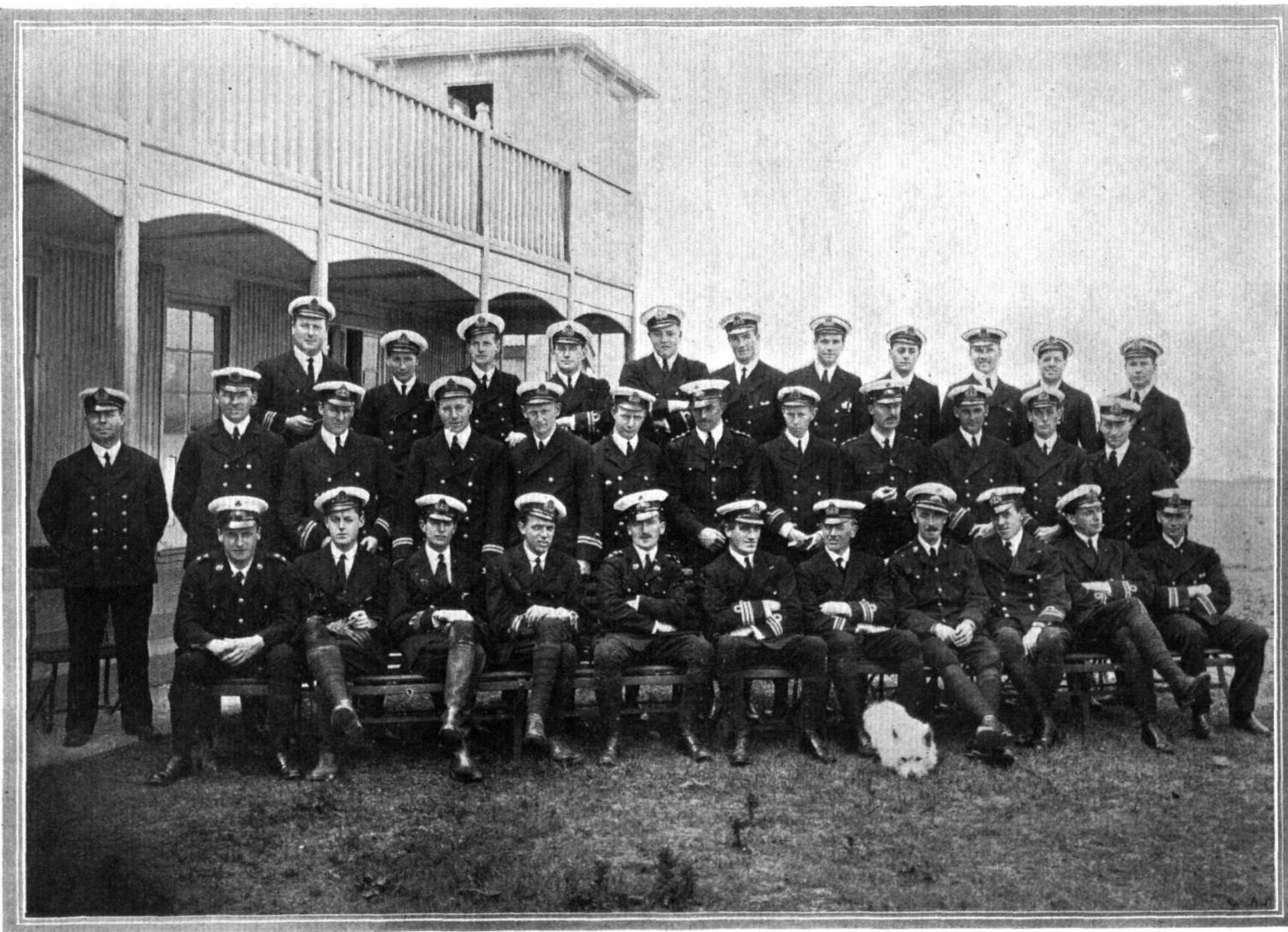


Photo by F. N. Birkett.

THE OFFICERS OF THE ROYAL NAVAL AIR SERVICE AT CALSHOT DURING THE RECENT NAVAL DEMONSTRATION AT SPITHEAD.
(For key to the group see page 800.)

FLIGHT.

THE CENTRAL FLYING SCHOOL AT UPAVON.

(Concluded from page 780.)

Training.—So far we have dealt with the personnel and the matériel of the School; we shall now turn to the scheme of training in operation there. This may be divided into three distinct parts—(a) Mechanical training; (b) Flying; and (c) Lecture work. The

special mechanical training in the shops, and for this purpose are divided into classes of about twelve—each batch as it finishes its course being succeeded by another. The time during which they are employed in this manner is not, however, the only practical

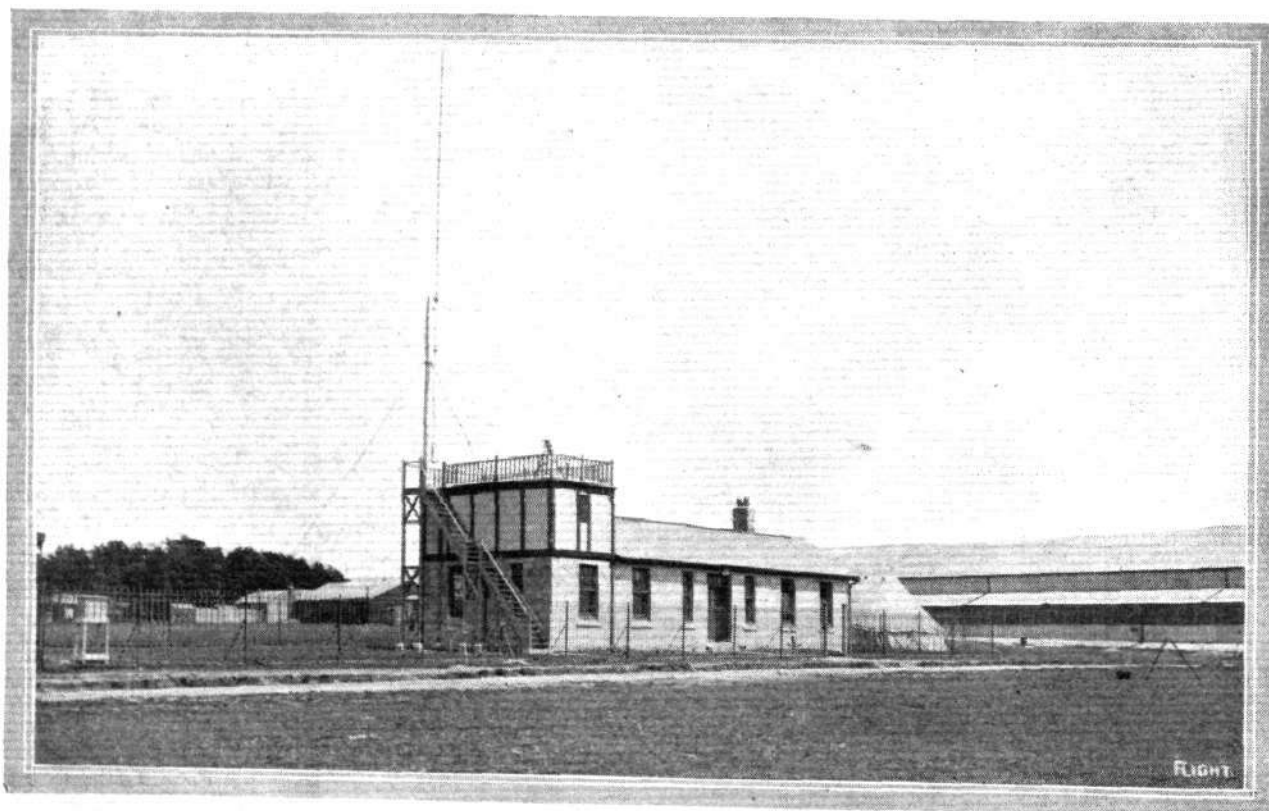


CENTRAL FLYING SCHOOL, UPAVON.—A view of the machines of A, B and C Flights from the rear, with the B.E.s. of A Flight nearest the camera. "Flight" Copyright.

work done by both officers and men comes under these three headings, but differences exist in the amount of time devoted by them to each, and in the character of the work to which attention is specially directed.

Mechanical Training.—Officers spend about three weeks in

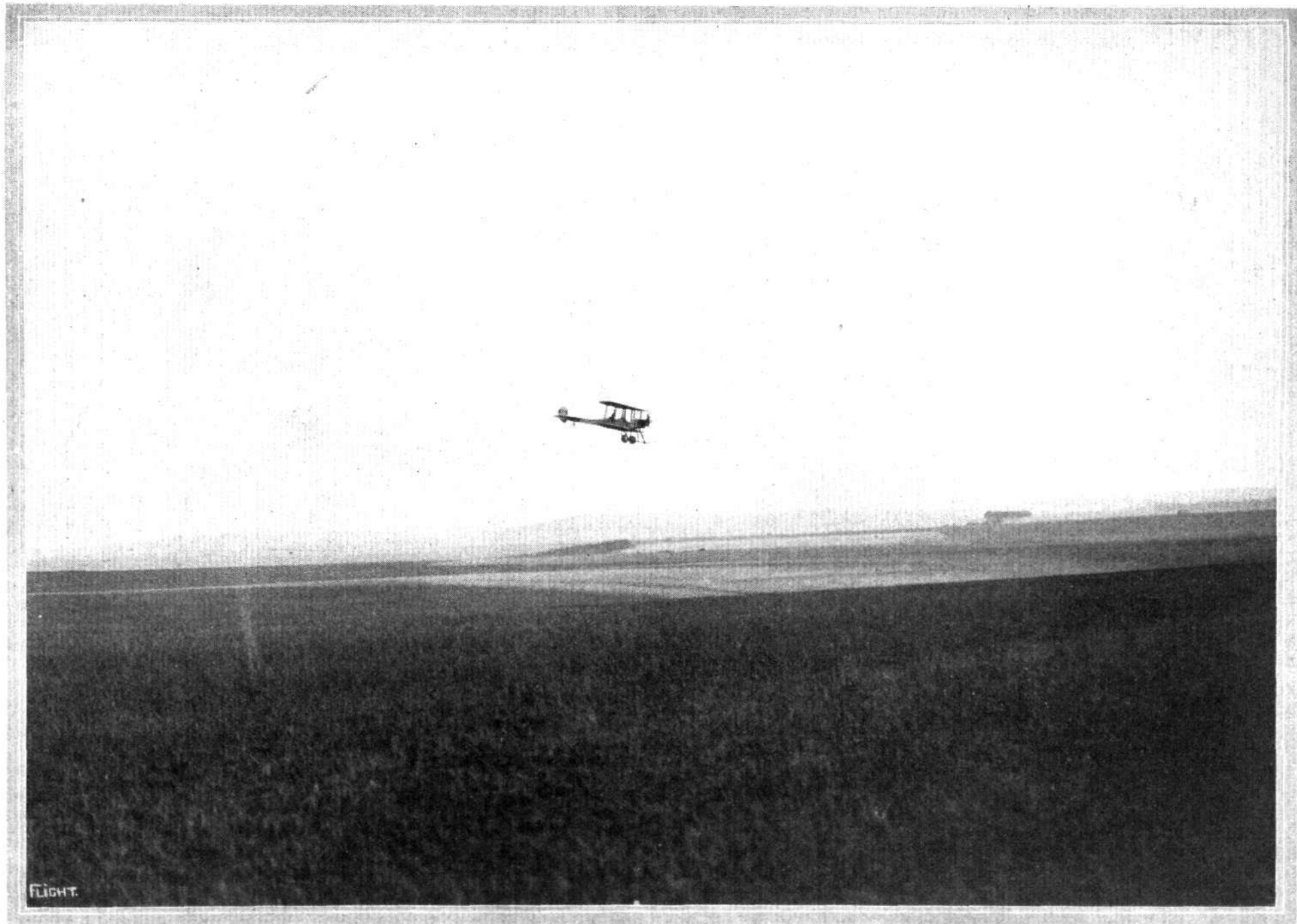
mechanical instruction in which they are engaged, or in which experience in this class of work is gained, since whenever it is possible to do so, repairs are carried out by the staff in the flights. Of the three weeks in the shops, ten days are spent in the engine shop and ten in the rigging shop; but, as before mentioned, some



CENTRAL FLYING SCHOOL, UPAVON.—The Meteorological Observatory, with the repair shop in the background. Note the theodolite on the roof and the 86-ft. mast for anemometer. "Flight" Copyright.

JULY 31, 1914.

FLIGHT



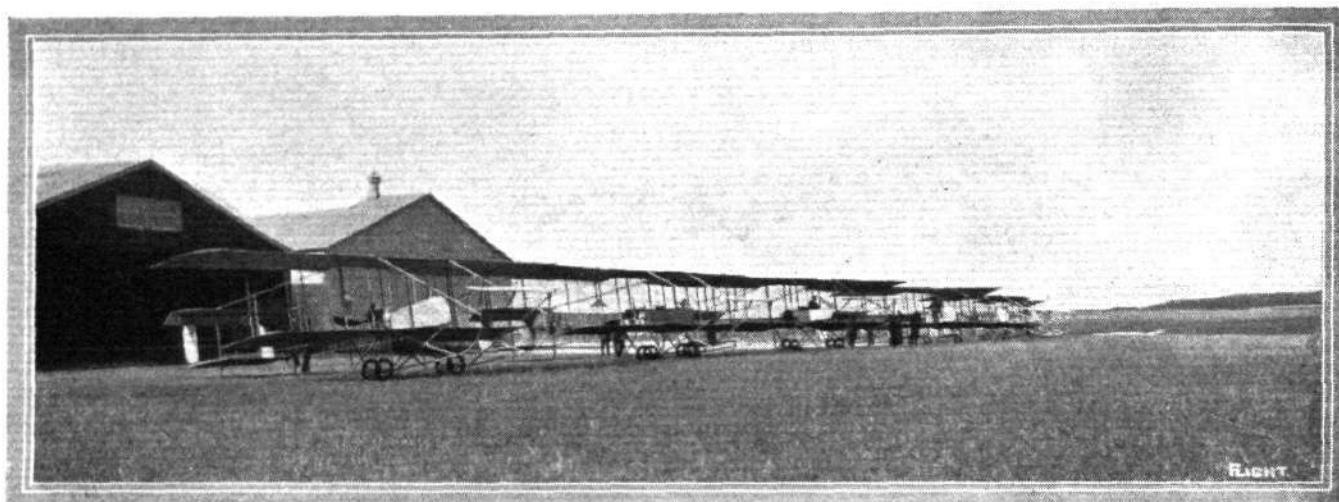
CENTRAL FLYING SCHOOL AT UPAVON.—A B.E. 2a in flight over the gallops, with Netheravon in the distance.

"Flight" Copyright.

officers devote a portion of the time during which they would be otherwise engaged, in furthering their knowledge of these branches of the work, especially as regards engine construction and maintenance, with the view of qualifying for employment later on mechanical transport duties.

As regards the N.C.O.s. and men, the period of training in mechanical work is much more prolonged, as it lasts for about three months. Riggers are employed for about ten weeks in the rigging or constructional shop and two weeks in the flights; while for the fitters, two weeks are spent in the flights and ten weeks in the

while the latter gradually allows the pupil to assume entire charge of the controls of the machine. Afterwards, and after some "rolling" instruction, the pupil is sent up alone and allowed to make straight flights. These are gradually made more extended, and practice is given in rising from the ground and landing. During the time these are in progress, the pupil is watched by the instructor, until he considers him to be sufficiently proficient to be able to attempt right and left-hand turns, after which he is permitted to fly anywhere within the aerodrome, with the strict injunction, however, before he starts—"no spirals" until such time



CENTRAL FLYING SCHOOL, UPAVON.—The Maurice Farman's of B Flight.

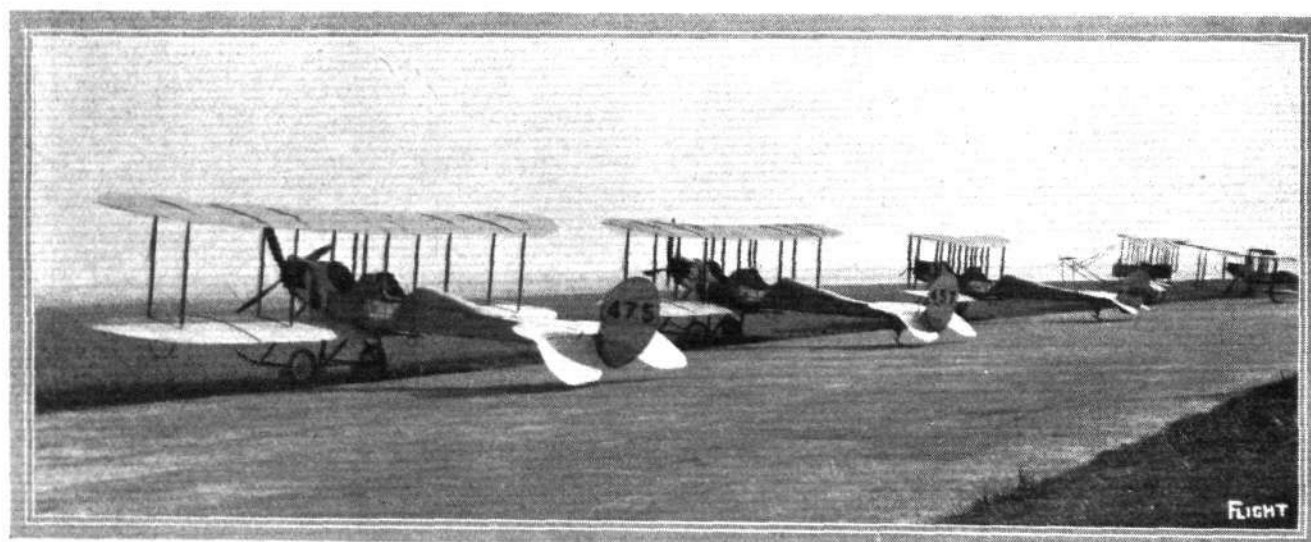
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engine repair shop. These periods are, of course, proportioned in this manner according to the relative importance of the work upon which they will be subsequently engaged when with the Squadrons. In the case of some men it is found necessary to acquaint them with the method of making the simplest forms of joints in connection with woodwork, and various examples of their handicraft were to be seen on the occasion of our visit. The officers are, however, not placed upon any of this work, as apart from the consideration that it is not altogether necessary, the time at their disposal does not permit of them engaging in it.

Flying.—The scheme of training for officers and for such men as undergo instruction in flying is somewhat similar to, and differs little

as the instructor considers him sufficiently experienced to practice them.

So far, the pupil has been kept to one type of aeroplane, and his instruction upon that machine is continued until he has become thoroughly conversant with its peculiarities under varying conditions. He is then sent up in a different type of aeroplane. Should he have been at first on a "pusher," a change is made to a tractor machine; while should both of these machines be fitted with a fixed engine, he is placed in charge of a Gnome-engined aeroplane, and so on. In this way a pilot becomes acquainted with the method of handling and the behaviour of different machines, until finally he can be trusted with two or three of the more familiar types. He



CENTRAL FLYING SCHOOL, UPAVON.—Some of the machines of C Flight.

"Flight" Copyright.

in the early stages from, the procedure followed in private flying schools. At first they are sent up with an instructor, of whom there are two attached to each flight—one a senior instructor, and the other an assistant instructor—on a dual control machine, of which there are several of each type at the school. These early flights are in the nature of "joy rides," and a pupil gradually acquires the "feel" of the machine and the knowledge as to what movements are made by the instructor under certain circumstances,

then is called upon to land on strange ground, so as to gain that experience which it may be imperative for him to possess when he commences to make cross-country flights, should he be compelled at any time to descend from some cause.

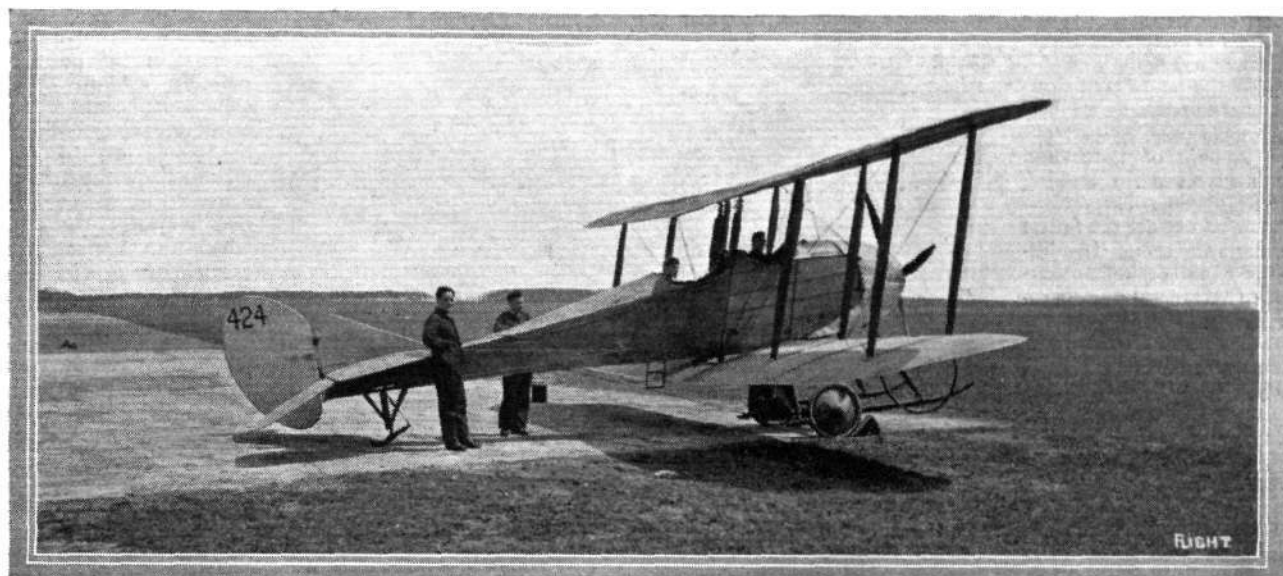
Having proved himself capable of piloting a machine within the limits of the aerodrome and of landing successfully on strange ground, he is permitted to make short flights away from the school, the distance flown being lengthened from time to time. In this

way experience in cross-country flying is acquired, until at length trips to Warminster, Newbury, Southampton, Bournemouth and other places up to about 50 miles distant are eventually frequently made, and continual practice, combined with the exercise of the faculty of observation, are all that are now required in order to fit him for more extended flights.

The period over which this course extends varies with different individuals according to the aptitude of the pupil, as is to be expected; but practice always proceeds step by step, proficiency in one kind of flying being expected before any attempt to make more difficult

success in this particular class of work are incidentally developed by these exercises, which also include the spotting of different landmarks, map reading, &c. In addition, a good observer is not produced in a day, and the extended practice required for his evolution can be done, at least, equally efficiently subsequently, when he has joined one of the Squadrons.

Lectures.—The subjects of the lectures form an important part of the course of training for men as well as officers. The lectures delivered to the air mechanics vary according to the work upon which they are engaged. Thus, fitters are taught the principles of



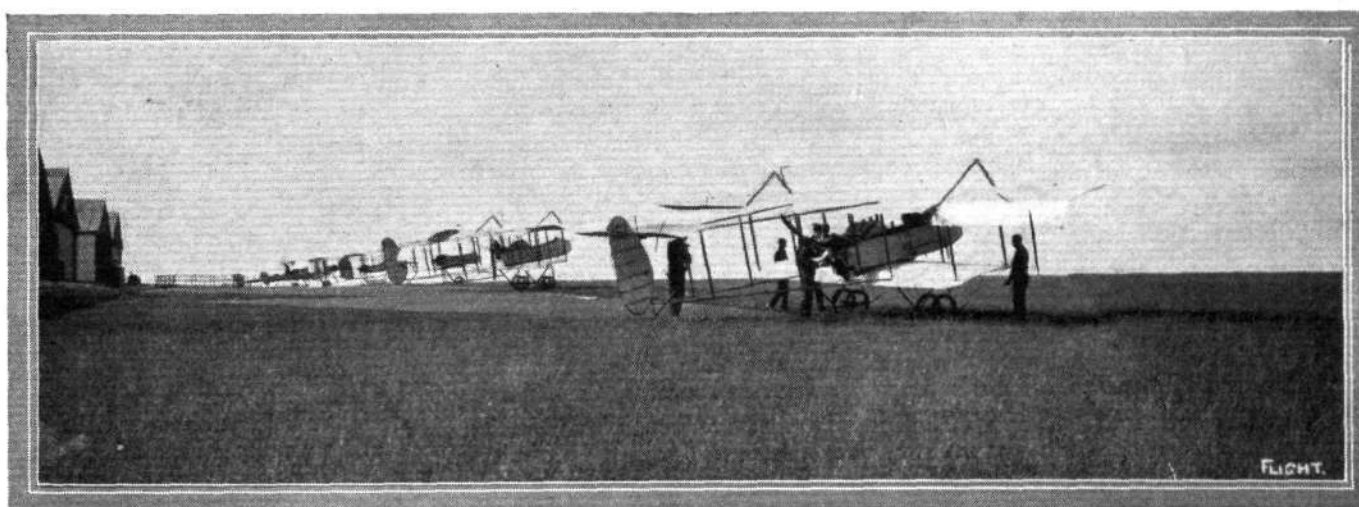
CENTRAL FLYING SCHOOL, UPAVON.—A B.E. 8 of A Flight, with air-mechanics in attendance, tuning up before a cross-country flight. "Flight" Copyright.

flights is permitted, and on one particular type of aeroplane before another type is flown in; while stunts are rigidly tabooed, as serving no useful purpose.

Reconnaissance.—No attempt is made to teach the practical side of reconnaissance at Upavon, owing to the fact that the time available limits any serious efforts in this direction. But it must not be imagined that nothing is done, as a perusal of the lectures delivered shows that a considerable amount of attention is devoted to observation and its kindred subjects; which thus enables the student-pilot to know what to look for, where to expect to find it, what it will

construction, examination, the method of handling and repair of engines, and the attention of riggers is directed to the erection, trueing up and repair of aeroplanes, but both classes of men receive instruction on the care and maintenance of aeroplanes and engines, while in actual use. N.C.Os. and men who are training as pilots attend lectures on map reading and the use of the compass, while all are given instruction in First Aid.

The officers have, however, a much more extended series of lectures, as one would have anticipated from the greater importance attaching to, and the more responsible nature of their duties. The



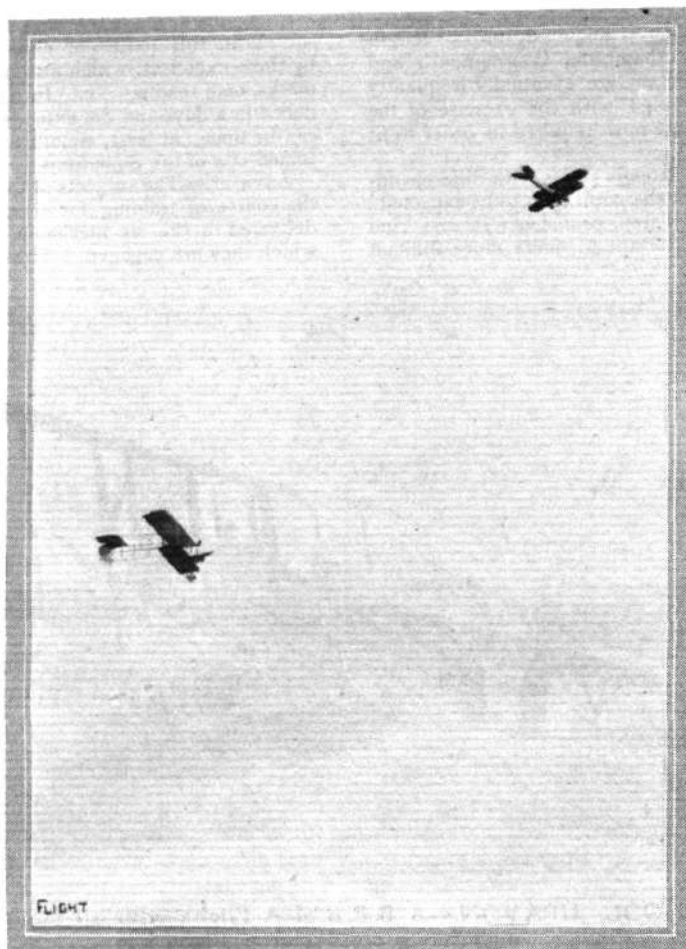
CENTRAL FLYING SCHOOL, UPAVON.—The Henry and Maurice Farmans of D Flight. "Flight" Copyright.

appear like on the ground, how to record the information gained, and many other essential points that the efficient observer must ultimately become conversant with, much of which he can make use of while still at the school. Furthermore, the cross-country flights made during the later portions of the course, none of which are attempted until after the pilot has worked out the details of the route upon which he intends to fly, afford excellent practice in observation, as well as in piloting; so that the peculiar qualities requisite for

following is a list of principal subjects upon which lectures are delivered, some of the subjects extending over as many as ten lectures. The first lecture deals with the rules of the air and of the aerodrome, and then follow lectures on the Theory of Flight, Aerial Navigation and the use of Maps, Internal Combustion Engines, Magnetos, Compasses, Hints on Flying, Meteorology, Formation of Troops, Types of Warships, Care of Aeroplanes, Cross-Country Flying and the use of Maps, First Aid, Trueing up Aeroplanes,

Strength of Materials, Observation, Propellers, Instruments and Motor Transport. These are delivered by lecturers who have had long experience in the class of work upon which they speak, and it will be readily admitted that the subjects dealt with form a most comprehensive and valuable course of study, which cannot fail to benefit all who attend the lectures.

Meteorology.—This department, which is under the direction of Mr. G. Dobson, M.A., undertakes the repair and overhaul of instruments, as well as meteorological observation; but a large amount of time and trouble is involved in making deductions from the observations taken so as to extract the fullest information from them. In addition to the usual periodic observations of temperature, barometric height, humidity of the atmosphere, rainfall, the direction (and velocity of the wind, &c.), the wind velocities at various elevations and the air currents in the atmosphere are charted. These are obtained by following the movement of pilot balloons in the lower regions of the atmosphere and by observing the movement and velocities of clouds; and are conducted in order to ascertain the effect of variations in the contour of the ground and the proximity of clumps of trees and buildings. The direction and elevation of the balloons are obtained by locating them at definite intervals of time by the aid of a theodolite, from which, knowing their distance from the observatory, the exact influence of the factors mentioned can be graphically represented. Readings are sometimes made at another station about 2,000 yards away, which, in

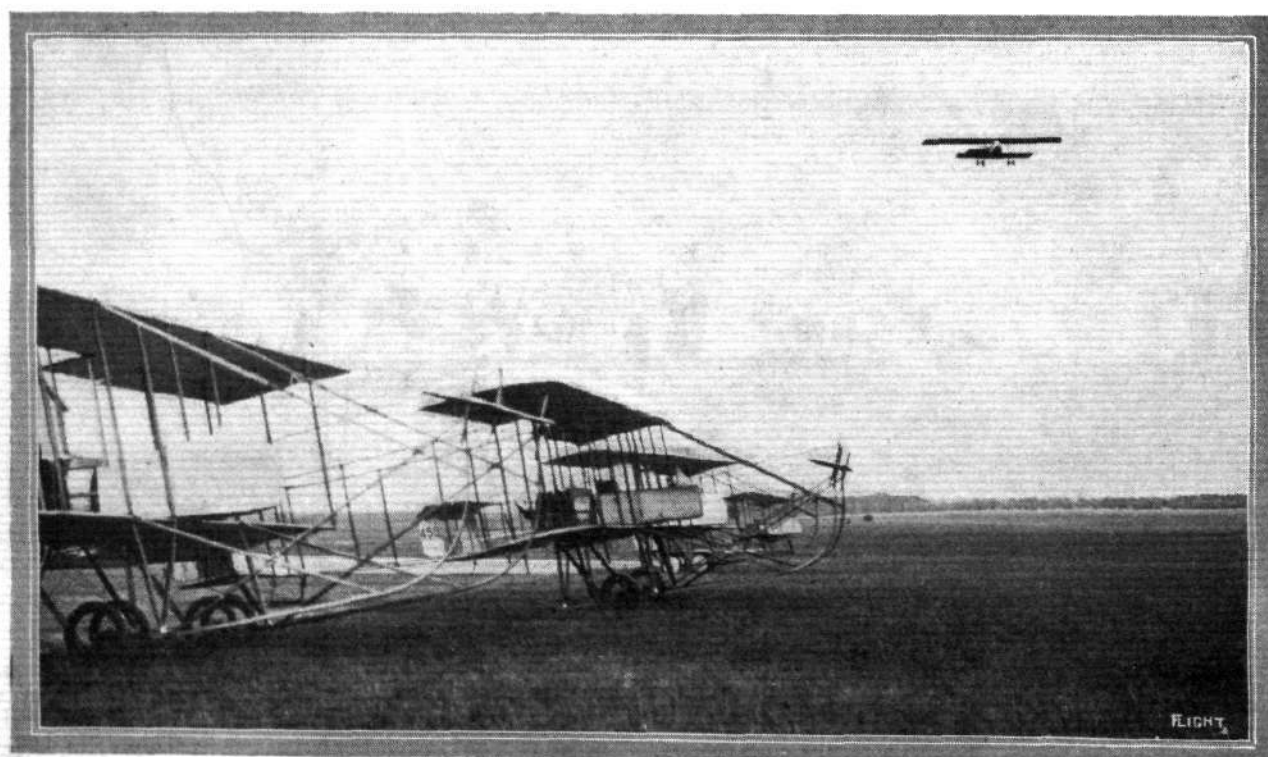


"Flight" Copyright.
A B.E. and a Henry Farman flying at Upavon.

conjunction with the observations made at the principal station, enable the exact distance of the balloon to be ascertained.

In determining the velocities and directions of clouds at various heights, it is important to get rid of the effects of perspective, and for this reason a special instrument is employed, a description of which may be of interest to our readers. This consists of a five-pronged fork set on its vertical axis, with the prongs in a horizontal line pointing upwards, the vertical column being assembled upon a stand on which a dial showing the points of the compass is mounted. As the fork is rotated, a needle moves over this dial, and indicates the direction in which the horizontal bar connecting the prongs is pointing. When a cloud is placed under observation, the fork is rotated until the cloud appears to be moving parallel to the points of the prongs. Perspective is then eliminated, and by noting the time taken for a part of the cloud to pass between two or more of the upright bars, and knowing the distance between the observer and the prongs, and the height of the cloud, or its distance from the observer, its velocity may be calculated. The direction of movement of the cloud is given by the reading on the dial on the S and.

Conclusion.—It will be realised that in the Central Flying School we have a model institution for the purpose in view—namely, the training and education of pilots and air mechanics in the theory and practice of aeronautics. The organisation is complete in every branch of its work; the course of training—mechanical, piloting and lectures—



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CENTRAL FLYING SCHOOL, UPAVON.—A Henry Farman in flight and some of the Maurice Farmans of B Flight on the ground.

leaving nothing to be desired, since theory and practice—both of which, as we have seen, are exhaustively dealt with—are combined in such proportions as to be of the maximum practical value to the officers and the men; while the spirit which pervades the School and the Corps is admirable.

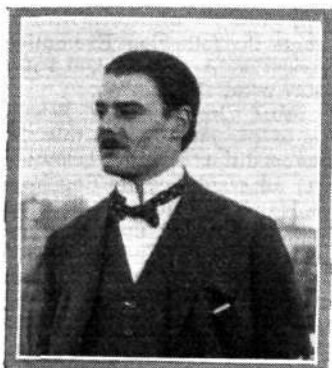
The life at Upavon is a strenuous one; but notwithstanding this, it is one that is enjoyed by all. The officers have built a court for squash rackets, a nine-hole golf course has been laid out at the rear of the School, and two tennis courts are to be found in the valley

below the Mess; while for N.C.O.s. and men, there is a large recreation ground provided, suitable for football, cricket and other games, tennis courts are available, and they have a Regimental Institute. Hence from the consideration which is given to the development of both sides of a man's character, to the advancement in military efficiency and the cultivation of the love of out-door amusements—it is not surprising that such excellent results are obtained from those who pass through its curriculum, and of which there is ample evidence on joining the Squadrons.

WHAT TAIL-SLIDING ON A BLÉRIOT FEELS LIKE.

By MARCUS MANTON.

EDITORIAL NOTE.—Mr. Marcus Manton learnt to fly at the Grahame-White School at Hendon just over two years ago, being only 18 years of age when he obtained his brevet. Thereafter he joined the Grahame-White staff of instructors, and for two years flew regularly in all weathers at the week-end exhibitions at Hendon. He has carried numberless passengers, has trained scores of pilots, and is looked upon as one of the world's finest pilots of the box-kite type of biplane, on which he can do marvels of banking and spiralling. Early this year he was engaged by Mr. B. C. Hucks to give looping demonstrations and also act as his understudy. Manton soon mastered the 50 h.p. Blériot monoplane as effectually as the biplane, and he has already given numerous exhibitions of upside-down flying and looping-the-loop in various parts of the country, his total of loops being well over the century. Mr. Manton is a careful and observant flyer, and uses his head as much as his hands. In the following article he describes a recent experience whilst looping on a Blériot.



The experience I am going to describe took place at Newbold Revel Hall, near Rugby, on Saturday, July 18th. The atmosphere was full of *remous* even at 1,500 ft. I had already given a demonstration of vertical banking and steeplechasing, and I then went out to loop the loop.

I climbed to nearly 2,000 ft. to try to get out of the *remous*. After completing one loop successfully, I immediately started another vertical dive for another loop. This preliminary dive, by the way, is very necessary on a looping Blériot, as it is a comparatively slow machine, and has only a 50 h.p. Gnome. Gently pulling the control lever towards me, the nose began to rear up and I climbed till the machine was standing on its tail. Then, to my consternation, the motor started to splutter, and the next instant had ceased to work. For a fraction of a second the monoplane remained poised in the air absolutely stationary. Then it commenced to fall backwards, tail first. The noise it started to make is almost indescribable. The wires vibrated and screamed and whistled. Each wing seemed to flap and rattle like a flag in a stiff breeze—this, of course, being due to the wind getting hold of the thin and flexible trailing edge—the metal engine cowl joined in the chorus of noise in a lower key, and for a few seconds it certainly seemed as though the machine was going to break up.

Having plenty of altitude, I did not make any desperate efforts to get the machine back to its proper position. I just let her do what she liked. Down, down, we came, the speed increasing with every second until the rattling and roaring were simply deafening. All this time I kept my control lever pulled back in the normal position for looping. This would mean that the elevator was up, and in the ordinary way should have had the effect of bringing up the tail and levelling out the machine. But the tail-

slide continued, so I thought I would make a little experiment. I pushed the lever forward until it was in a neutral position. I was able to do this quite easily, although, theoretically, it would seem that the rush of air on to the elevator would cause such a pressure that it would need great strength to alter the elevator's position. To my great surprise the fall was immediately checked, then with a hefty kick the machine made a forward plunge, slightly sideways, and then nosedived, after which I got level once again.

One would imagine that pushing the elevator to the normal position would tend to make the machine tail-slide all the more, but it was not the case, and the explanation I offer (which is open to correction by the scientific readers of *FLIGHT*) is that the machine being in a somewhat sideways position the elevator had a ruddering effect, and helped the machine more than ever to turn over sideways and sideslip before it turned into the usual nosedive.

Though not by any means my only tail-slide on the Blériot, it is the first time that I have experimented with moving the elevator. I must say that tail-sliding on a Blériot is most unpleasant, though perhaps on a Morane the experience is not so unpleasant owing to the balanced elevator, the stiffer nature of the wings, and its streamlined *fuselage*. These experiences have, however, given me even greater confidence in the Blériot, for although the machine underwent a very severe straining, there were no signs of weakness when I came to examine it after landing.

And once more it has been proved that provided one has enough altitude it is possible for a good aeroplane to recover from the most impossible position.

Marcus D. Manton
 July 23, 1914

The Naval Assembly Photograph.

THOSE of our readers who may wish for copies of the photograph on page 801 of the officers of the Royal Naval Air Service

taking part in the recent assembly at Calshot, may obtain them from Mr. F. N. Birkett, 97, Percy Road, London, W. The price of unmounted prints, 12 ins. by 10 ins., is 2s. 2d. each.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Diary of Events.

- Aug. 1-3 ... Aviation Meeting. Hendon Aerodrome.
Aug. 10-22 *Daily Mail* £5,000 Circuit of Britain Race. Starting from Southampton Water.
Sept. 27-28 Gordon-Bennett Aviation Race. Buc, France.

HENDON AERODROME.

Members of the Royal Aero Club are admitted free to the Hendon Aerodrome on presentation of their Club Membership Cards. The Membership Card admits the Member only—motor cars must be paid for.

DAILY MAIL £5,000 CIRCUIT OF BRITAIN RACE.

Official List of Competitors.

- | No. | Pilot. | Aircraft. |
|-----|------------------|--|
| 1 | V. Mahl | Sopwith Biplane, 100 h.p. English Monosoupape Gnome.
(Sopwith Aviation Co., Ltd., Kingston.) |
| 2 | C. H. Collet | Beardmore D.F.W. Biplane, 120 h.p. Beardmore Austro-Daimler.
(Wm. Beardmore and Co., Ltd., Glasgow.) |
| 3 | C. H. Pixton | Sopwith Bat Boat, 225 h.p. Sunbeam.
(Sopwith Aviation Co., Ltd., Kingston.) |
| 4 | C. Grahame-White | Grahame-White Biplane, 100 h.p. English Monosoupape Gnome.
(Grahame-White Aviation Co., Ltd., Hendon, N.W.) |
| 5 | F. B. Fowler | E.A.C. Biplane, 120 h.p. Green.
(Eastbourne Aviation Co., Ltd., Eastbourne.) |
| 6 | Capt. E. C. Bass | White and Thompson Seaplane, 120 h.p. Beardmore Austro-Daimler.
(White and Thompson, Ltd., Bognor.) |
| 7 | F. P. Raynham | Avro Biplane, 150 h.p. Sunbeam.
(A. V. Roe and Co., Ltd., Manchester.) |
| 8 | S. Pickles | Blackburn Biplane, 130 h.p. Dugald Baird Salmson.
(Blackburn Aeroplane and Motor Co., Ltd., Leeds.) |
| 9 | A. Loftus Bryan | White and Thompson Seaplane, two 100 h.p. Curtiss.
(White and Thompson, Ltd., Bognor.) |

This Race will start at 6 a.m. on Monday, August 10th, 1914, from the "Enchantress" (the Headquarters of the Royal Motor Yacht Club), which is moored off Netley Abbey.

The Royal Motor Yacht Club has kindly allowed the Royal Aero Club the use of the "Enchantress" for its headquarters from August 6th till the start of the Race on August 10th. The cabins are all booked up, but Members may go on board to witness the start. The progress of the competitors in the Race will be communicated to the "Enchantress" throughout the day. Members going on board the "Enchantress" will be made Honorary Members, and will be able to obtain meals.

Officials.

Stewards of the Race.

The Competitions Committee of the Royal Aero Club.

Marking Officials at Southampton.

Frank K. McClean, J. H. Nicholson, and Capt. C. H. Saunders.

Clerk of the Course and Secretary.

Harold E. Perrin.

Headquarters: "Enchantress," Netley Abbey.

Telephone: 2 Netley.

Telegrams: Perrin, Netley Abbey.

Controls and Control Officials.

Ramsgate.—Headquarters: Granville Hotel.

Telegrams: Aeroplanes, Granville, Ramsgate.

Officials: Harry DelaCombe and Roy DelaCombe.

Yarmouth.—Headquarters: Naval Air Station.

Telegrams: Aeroplanes, Great Yarmouth.

Officials: Lieut. R. Gregory, R.N., Lieut. C. L. Courtney, R.N., Capt. Henry Fawcett, Lieut. William G. Sitwell, Sub-Lieut. Ronald H. Kershaw, and A. J. A. W. Barr.

Scarborough.—Headquarters: Grand Hotel.

Telegrams: Aeroplanes, Grand, Scarborough.

Officials: C. G. Grunhold and Robert Loraine.

Aberdeen.—Headquarters: Palace Hotel.

Telegrams: Aeroplanes, Palace Hotel, Aberdeen.

Officials: Capt. G. W. Dawes, R.F.C., C. J. Waldie and James Clinkskill.

Fort George.—Headquarters: Naval Air Station.

Telegrams: Aeroplanes, Fort George.

Officials: Lieut. D. A. Oliver, R.N., and Capt. C. S. Nairne.

Oban.—Headquarters: Great Western Hotel.

Telegrams: Aeroplanes, Western, Oban.

Officials: J. Allison, Jr. (Secretary, Scottish Aeronautical Society), Robert Chalmers, W. K. Chalmers, R. C. Kemp, and James G. Weir.

Kingstown, Dublin.—Headquarters: Royal St. George Yacht Club.

Telegrams: Aeroplanes, St. George Club, Kingstown.

Officials: John D. Dunville (Chairman, Aero Club of Ireland), Major E. H. C. Wellesley, E. White, J. C. Percy, F. Trench, Oliver Fry, and D. F. Gillman (Secretary, Aero Club of Ireland).

Falmouth.—Headquarters: Royal Cornwall Yacht Club.

Telegrams: Aeroplanes, Yacht Club, Falmouth.

Officials: Claude Foster, Capt. E. J. K. Nicholls, R. G. Borne, F. G. Dawson, and M. Wright.

Aerial Navigation Acts, 1911 and 1913.

Exemption.

The Secretary of State hereby grants the following Exemption from the Orders under the Aerial Navigation Acts, 1911 and 1913, made by him March 1st, 1913, and May 25th, 1914:—

Seaplanes taking part in the *Daily Mail* Circuit of Great Britain Race, 1914, may, during the course of the race, pass within the following prohibited areas, subject to the conditions specified below:—

1. *Spithead*: On condition that (1) all seaplanes, starting from Southampton Water near Calshot or Hamble, shall pass between the Calshot and Calshot Spit Lightships; they shall fly thence in a direct line to Horse Sand Fort, passing within a distance of 400 yards from that Fort, and thence East South East into the English Channel. Competitors desiring to proceed Westward after passing Horse Sand Fort as above, shall pass the Nab Lightship, leaving it on the right hand, and shall then pass South of St. Catherine's Point off the Isle of Wight. (2) All seaplanes returning to Southampton Water (a) if coming from the Westward, shall pass South of St. Catherine's Point, thence to the Nab Lightship, leaving it on the left hand, and thence to Horse Sand Fort; or (b) if coming from the Eastward, shall after rounding Selsey Bill proceed on a West North Westerly course towards Horse Sand Fort. They shall pass Horse Sand Fort within a distance of 400 yards of that fort, and shall then proceed to Southampton Water by the same course and under the same conditions as at the start. While in the Spithead prohibited area, no seaplane shall rise to a greater height than 300 feet above sea level.

2. *Dover Castle and Archcliffe Fort*: on condition that no competitor shall pass nearer the shore than a distance of 800 yards seaward from the end of the Admiralty Pier, nor at a height exceeding 300 ft.

3. *Newhaven, Lydd and Montrose*: these areas shall not be prohibited to persons competing in the race.

4. *All other Prohibited Areas in the Line of Flight*: on condition that no competitor flies within 800 yards of the land or at a greater height than 300 feet above sea level while passing through the prohibited area.

5. No departure from these conditions shall be permitted except in case of emergency.

(Signed) EDWARD TROUP, Under Secretary of State.
Home Office, July 18th, 1914.

COMMITTEE MEETING.

A Meeting of the Committee was held on Tuesday, July 28th, 1914, when there were present:—Col. H. C. L. Holden, C.B., F.R.S., in the Chair, Mr. Ernest C. Bucknall, Prof. A. K. Huntington, Major F. Lindsay Lloyd, Mr. F. K. McClean, Mr. Mervyn O'Gorman, C.B., Mr. C. F. Pollock, Mr. T. O. M. Sopwith, and the Secretary.

New Members.—The following new members were elected:—George W. Beatty, Algernon Boyesen, Alexander L. Howard, J.P., William Thomas Vere-Wayte Wood.

Aviators' Certificates.—The following Aviators' Certificates were granted:—

- 838 1st Class A. M. William Boyle Power, R.F.C. (Maurice Farman Biplane, Central Flying School, Upavon). July 1st, 1914.
839 Master Mariner Alfred William Clemson, R.N.R. (Vickers Biplane, Vickers School, Brooklands). July 14th, 1914.

- 840 Lieut. Alastair St. John Munro Warrand (Black Watch) Vickers Biplane, Vickers School, Brooklands). July 14th, 1914.
- 841 Thomas Forster Rutledge (Bristol Biplane, Bristol School, Brooklands). July 14th, 1914.
- 842 (Hydro-aeroplane) Rear-Admiral Mark Edward Frederic Kerr (Sopwith Biplane, Royal Hellenic Naval Air Station, Eleusis, Greece). July 14th, 1914.
- 843 Percy Dickson Robinson (Grahame-White Biplane, Grahame-White School, Hendon). July 16th, 1914.
- 844 Henry John Lloyd (1st Class Stoker, R.N.) (Maurice Farman Biplane, Central Flying School, Upavon). July 17th, 1914.
- 845 William Campbell Adamson (Bristol Biplane, Bristol School, Brooklands). July 17th, 1914.
- 846 Stephenson MacGordon (Sopwith Biplane, Sopwith School, Brooklands). July 17th, 1914.
(Subject to permission of Aero Club of America.)
- 847 John Scott Bradbury Winter (Grahame-White Biplane, Grahame-White School, Hendon). July 18th, 1914.
- 848 Henry Pagan Lowe (Grahame-White Biplane, Grahame-White School, Hendon). July 20th, 1914.
- 849 Arthur Gelston Shepherd (Grahame-White Biplane, Grahame-White School, Hendon). July 21st, 1914.
- 850 William Percy Parker (1st Air Mechanic) (Maurice Farman Biplane, Central Flying School, Upavon). July 21st, 1914.
- 851 Lieut. Thomas Ralph Wells (33rd Punjab), (Vickers Biplane, Vickers School, Brooklands). July 21st, 1914.
- 852 Lieut. Angus George Gillman, R.H.A. (Vickers Biplane, Vickers School, Brooklands). July 21st, 1914.
- 853 Capt. Harry Tailour Lumsden (Cameron Highlanders), (Vickers Biplane, Vickers School, Brooklands). July 22nd, 1914.
- 854 Thomas Hinshelwood (Vickers Biplane, Vickers School, Brooklands). July 27th, 1914.

Accidents Investigation Committee.—It was unanimously resolved that the following statement be published:—

The Committee of the Royal Aero Club has had its attention called to an article which has appeared in one of the journals devoted to aviation, on July 8th, 1914, over the initials "C.G.G.," dealing with a report of the Accidents Investigation Committee.

The Committee considers that the statements made in this article are untrue and uncalled for, and that the writer has improperly

attacked the Accidents Investigation Committee by deliberately imputing unworthy motives without any foundation.

Gordon-Bennett Aviation Race.—The report of the Competitions Committee was received and adopted.

Daily Mail Circuit of Britain Race.—The arrangements for this Race were reported and approved.

Accidents Investigation Committee.—The reports on the fatal accidents to Capt. C. R. W. Allen, R.F.C., and Lieut. J. E. G. Burroughs, R.F.C., and Mr. E. T. Haynes were adopted and ordered to be published *in extenso*.

(Full reports will be found following these Notices.)

COMPETITIONS COMMITTEE.

The Competitions Committee met on Friday, July 24th, 1914, at five o'clock.

Gordon-Bennett Aviation Race.—Letter was read from the British and Colonial Aeroplane Co., Ltd., withdrawing their entry for the race on account of pressure of work. It was decided not to hold the Eliminating Trials at Upavon as previously arranged. In the event of eliminating trials being necessary, they will be held at Buc a few days prior to the actual race, which is fixed to take place on September 27th and 28th next.

Daily Mail Circuit of Britain Race.—The secretary reported fully on the arrangements at the various controls and Southampton, which were approved.

Gordon-Bennett Aviation Race, Buc, September 27th and 28th, 1914.

The Race for the Gordon-Bennett Aviation Cup will take place at Buc, near Paris, on September 27th and 28th, 1914. It is expected that the British Empire will be represented by a team of three competitors, to be selected from the following entrants:—

Sopwith Aviation Co., Ltd.
Messrs. A. V. Roe and Co., Ltd.
Messrs. Vickers Ltd.
Cedric Lee Co., Ltd.

Several Members have expressed a wish that the Club should organise a party to attend this International Race, thus obtaining railway tickets at reduced fares. Members wishing to join this party are requested to send in their names at the earliest possible moment to the Secretary of the Royal Aero Club, and, providing a sufficient number is forthcoming, the necessary arrangements both as regards railway fares and hotels will be made.

ACCIDENTS INVESTIGATION COMMITTEE OF THE ROYAL AERO CLUB.

REPORT No. 25.

REPORT ON THE FATAL ACCIDENT TO CAPT. CLEMENT ROBERT WEDGWOOD ALLEN, R.F.C., AND LIEUT. JAMES EDWARD GODFREY BURROUGHS, R.F.C., WHEN FLYING AT NETHERAVON, SALISBURY PLAIN, ON WEDNESDAY, MARCH 11TH, 1914, AT ABOUT 9.25 A.M.

Brief Description of the Accident.—Capt. C. R. W. Allen was flying a B.E. Biplane, No. 204, fitted with an 80 h.p. Gnome engine, with Lieut. J. E. G. Burroughs as passenger, at Netheravon, Salisbury Plain, on Wednesday, March 11th, 1914. The aircraft, which had been in the air about 5 minutes, had made nearly a complete circuit and was turning in the direction of the sheds. When at a height of about 350 feet, the rudder was seen to leave the aircraft which then made a spiral dive to the ground. The pilot and passenger were both killed and the aircraft was completely wrecked.

Capt. C. R. W. Allen (aged 36) was granted his Aviator's Certificate, No. 159, on November 14th, 1911, by the Royal Aero Club, and Lieut. J. E. G. Burroughs (aged 30) was granted his Aviator's Certificate, No. 1213, on January 31st, 1913, by the Aero-Club de France.

Report.—The Committee sat on June 16th and 30th and July 14th and 27th, 1914, and received the report of the Club's representative who visited the scene of the accident within a short time of its occurrence, together with the evidence of eye-witnesses. The Committee also had before them the report of the National Physical Laboratory, dated May 20th, 1914, on the fracture of the rudder-post of B.E. Biplane No. 204. In this report the condition of the

metal of the steel tube which formed the rudder-post has been very thoroughly investigated. The Committee was also furnished with the results of mechanical tests on similar rudders manufactured at the same time.

From the consideration of the evidence the Committee regards the following facts as clearly established:—

1. The aircraft was built by the Royal Aircraft Factory in June, 1912.

2. There was practically no wind at the time of the accident.

3. The main rudder tube was fractured at the base of the rudder just below where the rudder-post passes through the frame of the rudder and is welded to it.

4. The rudder which became detached from the aircraft in the air was picked up 126 yds. from the spot where the aircraft fell.

5. The control wires were found to be intact.

Opinion.—The Committee is of opinion that the rudder was sufficiently strong to withstand the ordinary stresses of flying but was insufficiently strong to resist the greatly increased stresses of modern flying and rough usage, and had probably been damaged in this way prior to this particular flight.

Recommendation.—In consequence of the greatly augmented stresses now imposed on aircraft due to the increased skill and daring of aviators in high winds in connection with sharp turns and similar manoeuvres, it is recommended that the attention of constructors be drawn to the necessity of making due allowances for these increased stresses, combined with proper allowances for deterioration due to wear and tear, and the possibility of flaws in the materials themselves.

ACCIDENTS INVESTIGATION COMMITTEE OF THE ROYAL AERO CLUB.

REPORT No. 26.

REPORT ON THE FATAL ACCIDENT TO MR. EWART TEMPLE HAYNES, WHEN FLYING AS A PASSENGER WITH MR. RONALD C. KEMP, AT WITTERING, NEAR CHICHESTER, ON MONDAY, FEBRUARY 23RD, 1914, AT ABOUT 11.45 A.M.

Brief Description of the Accident.—Mr. Ronald C. Kemp was flying an F.E. 2 Biplane, fitted with a 70 h.p. Renault engine, at

Wittering, near Chichester, on Monday, February 23rd, 1914, at about 11.45 a.m., with Mr. E. T. Haynes as a passenger. The flight lasted about 5 minutes, and from a height of about 500 feet, the aircraft was observed to be making a steep right-hand spiral descent, but not heavily banked. The spiral descent continued until the aircraft hit the ground. The aircraft was completely

wrecked, the pilot, Mr. R. C. Kemp, sustained serious injuries, and the passenger, Mr. E. T. Haynes, was killed.

Mr. Ronald C. Kemp (aged 24) was granted his Aviator's Certificate, No. 80, on May 9th, 1911, by the Royal Aero Club.

Report.—The Committee sat on July 14th and 27th, 1914, and received the report of the Club's representative who visited the scene of the accident within a short time of its occurrence, together with the evidence of eye-witnesses. Mr. Kemp also attended and gave evidence.

From the consideration of the evidence the Committee regards the following facts as clearly established:—

1. The aircraft was an experimental one and was built at the Royal Aircraft Factory, Farnborough, in August, 1913.
2. The wind at the time of the accident was about 30 m.p.h.

3. The pilot, Mr. R. C. Kemp, had flown the aircraft previously in several tests at Farnborough, under similar conditions of load.

4. The control wires were found to be intact.

5. The field where the pilot got into the aircraft was wet and muddy.

6. The pilot remembers nothing that occurred on the day of the accident.

Opinion.—The Committee is of opinion that there is no positive evidence to show why the accident occurred, but such evidence as is available points to the conclusion that the most probable cause was that the pilot's foot slipped over the rudder-bar, and that he thus lost control.

166, Piccadilly, W.

HAROLD E. PERRIN, Secretary.

FROM THE BRITISH FLYING GROUNDS.

Royal Aero Club Eastchurch Flying Grounds.

Naval Flying.—Monday last week, rather windy. No. 152 Short sociable was the only machine up. Tuesday, fine. The undermentioned up several times during the day:—No. 45 Caudron, 34 and 1 Short, and 152 Short sociable. Wednesday, windy. No. 152 Short sociable, 45 Caudron, 1 Short, 34 Short. Thursday, windy. No. 41 Avro, 34 Short, 1 Short, 152 Short sociable, cross-country trips. Friday, showery. 152 Short sociable.

Civilian Flying.—Mr. F. McClean out on his 160 h.p. Short hydroplane, taking two passengers and mechanic at Harty.

Brooklands Aerodrome.

ON Monday morning last Mr. Mahl was testing the "Circuit of Britain" Sopwith (100 h.p. Gnome monosoupape) and Mr. Raynham an 80 h.p. Avro. In the afternoon Mr. Raynham, with his

in the afternoon, Mr. Dukinfield Jones on D.F.W., and Mr. Serge de Bolotoff testing engine of triplane. Bristol, Blériot, and Vickers



Mr. H. Racine-Jacques, who recently secured his *brevet* at the Bristol Flying School, Brooklands.

mechanic (Clifton) as passenger, to Farnham on 80 h.p. Avro; Mr. Mahl on 100 h.p. Gnome-Sopwith; Mr. Barnwell, with passenger on Vickers gun 'bus to Farnborough, where the machine was officially tested to do a fraction under 70 m.p.h., with a slow speed of 40 m.p.h.; Mr. Merriam doing spiral on Bristol biplane, and Mr. Dukinfield Jones out on D.F.W.; Bristol, Vickers, and Blériot pupils out.

Vickers, Blériot and Bristol pupils out Tuesday morning. Mr. Alcock started for Wolverhampton on the 100 Sunbeam, reaching there in 108 mins., after having to descend at Snitterfield, near Warwick, owing to fog. Mr. Barnwell cross-country on Vickers radial biplane; in the afternoon Mr. Creagh taxiing on his Bristol tractor biplane, Mr. Raynham with his mechanic (Clifton) to Farnborough to deliver another 80 Avro. Mr. Gower across country on 50 Blériot, Mr. Hawker "looping" on his Sopwith biplane, Mr. Barnwell in from Farnborough on the Vickers gun 'bus with Mr. Waterfall as passenger, Mr. Dukinfield Jones out on D.F.W. Blériot, Vickers, and Bristol pupils out. *Brevet* tests in excellent style by Lieuts. Wells (altitude 3,700), and Gillman (altitude 700).

Wednesday, Bristol, Blériot, and Vickers school work. Mr. Copland Perry and Mr. Glew straights on the Perry-Beadle biplane;



Mr. T. F. Rutledge, an Australian pupil, who on July 14th obtained his *brevet* at the Bristol School, Brooklands.

school work. *Brevet* tests in good style by Capt. Harry Lumsden (altitude 600).

Lieut. Lawrence, with Lieut. Waterfall as passenger in from Farnborough on B.E., Thursday afternoon, Mr. Gower out on 50 Blériot.



Capt. J. F. A. Kane (2nd Devonshire Regt.), who recently took his certificate at Vickers Flying School, Brooklands.

On Friday, Mr. Hawker on Sopwith "scout" to Farnborough, Messrs. Jullerot and Stutt out on Bristol biplanes.

Saturday morning, Lieut. Waterfall on Martinsyde monoplane to Farnborough, Mr. Barnwell with passenger on Vickers gun 'bus: in the afternoon, Mr. Hawker flying well in strong wind on his Sopwith "looper."

Sunday afternoon, Mr. Hawker gave some excellent demonstrations of "looping-the-loop" on his Sopwith biplane in a very gusty wind, and also took up one or two passengers. One enthusiast wanted to "loop-the-loop" with Mr. Hawker, but was persuaded to postpone it for more favourable conditions. The winner of the ballot for the free passenger flight—Mr. W. H. Norton, Hon. Secretary of the Reigate, Redhill and District Aero Club—elected to defer his trip until there was less wind.

Blériot School.—Rolling and straights on 25, 28, and 35 h.p. Messrs. R. Creagh 14 mins., G. Pitt 24 mins., L. Treloar 48 mins., J. Brooke 20 mins., Comte FitzJames 20 mins., Lieut. Commanch Fraser 46 mins. Circuits: Mr. A. Crick 8 mins.

Bristol School.—Monday, last week, passenger tuition to Lieut. Sanders (2), Lieut. Hewitt (2), Lieut. Moule (3), solo and figure of eight by Lieut. Lawrence.

Tuesday, passenger tuition to Lieut. Sanders (4), Lieut. Hewitt (4), Lieut. Moule (2), solo by Mr. Collins and figure of eight by Lieut. Lawrence.

Wednesday, passenger tuition to Lieut. Hewitt (4), Lieut. Moule (3), solos by Mr. Collins, Lieut. Sanders (4), Lieut. Coles (2).

Thursday, windy. Friday and Saturday, no school work possible.

Vickers School.—Monday, last week, with instructor: Capt. Lumsden, Lieut. Wells and Gillman solos.

Tuesday, with instructor: Capt. Lumsden, Lieuts. Wells and Gillman solos. Lieuts. Wells and Gillman for *brevets* in excellent style, Lieut. Wells ascending to 3,700 ft. in height test, constituting a record performance for a pupil. Capt. Lumsden solo.

Wednesday, Capt. Lumsden solo, and for *brevet* in fine style.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Monday, last week, Messrs. Duncan, Wyles and Courtney straights with Instructors Howarth and Lillywhite. Mr. Lowe *vol plané*, &c., obtaining his pilot's certificate.

Tuesday, Mr. Shepherd competing for and obtaining his *brevet*. Messrs. Murphy, Liu, Hain, Duncan, Stalker and Upton straights

with Instructors Barrs, Dunn and Howarth. Messrs. Carabajal, Hawkins and Strickland (new pupils) rolling with instructors and alone. Mr. Palmer solo straights.

Wednesday, Mr. Palmer solo straights. Messrs. Duncan, Gruning, Strickland, Liu straights with Instructors Barrs, Dunn and Howarth. Mr. Carabajal rolling with Instructor. Mr. North first part of *brevet* tests.

Thursday, Mr. Lister (new pupil) and Mr. Carabajal rolling with Instructor Dunn. Messrs. Duncan and Courtney straights.

Beatty School.—Monday last week, Messrs. Allen 4 mins. and Ruffy 10 mins. up with Baumann. Messrs. Bentley 12, Leong 10, Roche-Kelly 10, and Grunning (extra practice) 25 up with Watts.

Tuesday morning, Mr. Roche-Kelly 10, Lieuts. Maguire 12, and Browning-Paterson 10. Evening, Messrs. H. Keating 12, Bentley 10, Roche-Kelly 5, and Lieut. Maguire 12 up with Baumann.

Wednesday, Messrs. Leong 15, Travers 12, and Lieuts. Browning-Paterson 10, Brown 13, up with Watts, and Messrs. Ruffy 13, Roche-Kelly 5, Lieuts. Settle 10 and Brown 4 up with Baumann.

Thursday, Messrs. Bentley 5, Allen 5 up with Baumann.

End of week very bad weather, so no school was held.

British Caudron School.—Monday and Tuesday, last week, too windy for school to go out.

Wednesday, the Caudron school out at 5.30 a.m. under the instruction of René Desoutter and R. M. Murray. R. Desoutter test flight. Mrs. Buller 20 mins. flight, reaching height of 1,000 ft.

Thursday, Friday and Saturday weather too bad for school.

Hall School.—Monday, last week, A. F. Arcier circuits on No. 1 Caudron.

Tuesday, A. F. Arcier two circuits and figure eights on Caudron.

Wednesday, A. F. Arcier took the first two-thirds of his Royal Aero Club certificate with well banked turns, and landing with well judged *vol plané*. Messrs. Henry Gearing and A. L. Brookes now ready to complete their certificates as soon as weather changes.

Shoreham Aerodrome.

Pashley School.—Instructors for week: B. F. Hale, E. and C. Pashley. New pupils: C. Winchester and C. Borton. - Up with instructor: E. Roberts, C. Winchester, and C. Borton. Circuits and 8's: W. Mortimer.

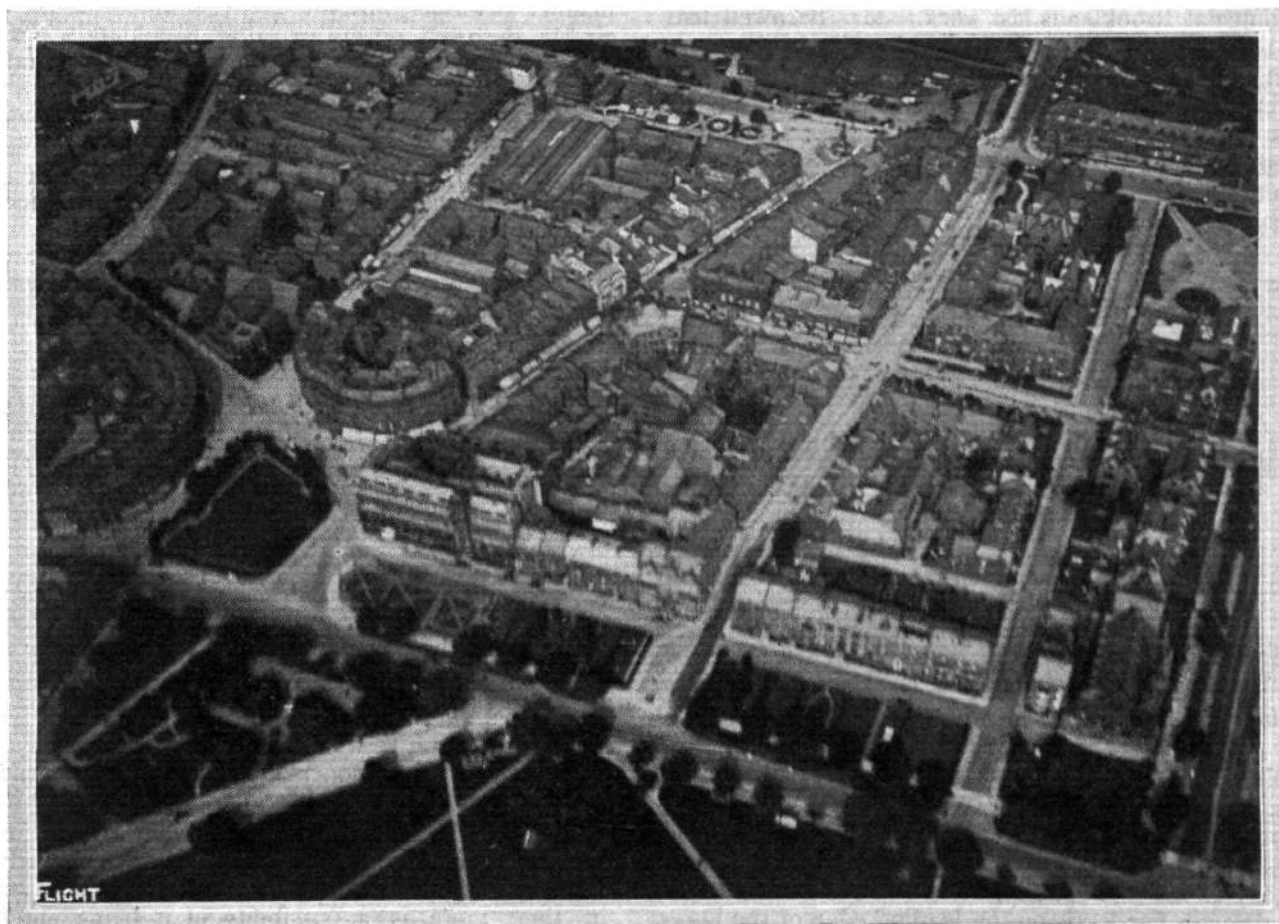


Photo Cornell.

A general view of Harrogate town, taken from Mr. W. Rowland Ding's aeroplane at 1,300 ft. high, showing the railway station, Victoria Monument, Station Parade, Albert Street, James Street, Prospect Hotel and Crescent, Alexandra Hotel and West Park.

EDDIES.

It appears that pupils at the Vickers school at Brooklands are not always content with merely passing the required tests when flying for their brevet, but that some of them have such confidence in their ability as pilots, after the thorough tuition they have received from the instructors of the school, that they frequently go far beyond the stipulations of the tests, just by way of making doubly sure of their efficiency in piloting. The same probably applies to pupils of other schools, but when it comes to "calling down" a pupil I should think that Mr. Barnwell can claim the distinction of being the first instructor to back up his authority with a machine gun.

Quite recently a pupil when flying for his ticket, took one of the school machines up to an altitude of 3,700 feet. When he had reached a height of about 2,000 feet, and still showed no signs of intending to come down, and as the 'bus was wanted by another pupil, Mr. Barnwell gave chase on the gun-carrying biplane, presumably with the intention of opening fire if it was found impossible to bring the pupil down by gentler persuasive methods. For some time the two machines circled round and round, climbing steadily, before Barnwell could get near enough to attract the attention of the pupil, the latter shut off his engine, and came down in an excellent spiral *vol plané*. It was later ascertained that he had reached an altitude of 3,700 feet, a very fine performance considering that the machine was a school 'bus fitted with an engine of 50 h.p. only.

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A new Vickers gun-carrying biplane made its first appearance at Brooklands last week. Mr. Barnwell had flown the older machine, which was described in FLIGHT a short time ago, over to the works at Joyce Green, and later returned on the new biplane, which had just left the stocks. In its general appearance the latest gun-carrier is a replica of the previous one, but several details have been altered. Head resistance has been reduced, wherever

outrigger have been replaced by stranded cables, probably with a view to eliminate, as far as possible, any danger of breakage and consequent possibility of them getting entangled in the propeller. Constructionally, the machine is a beautiful piece of work, both as regards workmanship and finish, and aerodynamically it appears to be very efficient. Under the clever piloting of Mr. Barnwell, the new gun-carrier flies exceedingly well, and although it is



The fuselage of the immense Martinsyde monoplane, showing central sections of wings in place. The wing extensions are considerably larger than these centre parts of the planes, to which they are secured by means of the lugs seen in the photograph.

comparatively new it has already been put through all manner of tests. The first day this machine was in the air Mr. Barnwell, on his arrival at Brooklands, did some fancy flying before coming down, including spirals and most alarming banks, that is to say, banks which would have been alarming had the pilot been less experienced.

x x x

The enterprise and progress of the D.F.W. firm is a thing to be mar-



The G.-W. waterplane, constructed for the Circuit of Britain, leaving Hendon for Southampton on Saturday last.

possible, as for instance in the arrangement of the control cables. The rudder and elevator cables pass along the tail booms in the usual way, but are then taken round pulleys and run parallel with the bracing cables of the inner bay of the main planes, whilst the *aileron* cables are taken through fair leads on the leading edge of the lower plane. Instead of the rotatable hand-wheel with which the previous machine was fitted, a single central lever actuates the *ailerons*. The bracing wires in the tail

velled at. No sooner have that firm turned out machines which beat world's altitude and distance records, that Mr. Kny tells me of a new machine which we may expect to see over here shortly. If it is found possible to get this new biplane finished in time, there is a possibility of it being entered for this year's Gordon-Bennett Race. Although I am not permitted to disclose details at present, I will take the risk of incurring Mr. Kny's wrath by informing my

readers that the span of this new "stunt" bus is only 18 feet. It is fitted with a 200 h.p. engine, and Mr. Kny anticipates a maximum speed of well over 2 miles per minute. In spite of this extraordinary performance, the new scout will, I am told, get off after a run of 150 yards.

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From Australia comes a letter from Mr. G. H. Johnston, Auburn, Victoria, which throws light on several subjects in connection with aviation in the Antipodes, particularly the lack of interest taken by the daily Press in the progress of the art. Mr. Johnston says: "As a reader of FLIGHT, from the columns of which I am gradually picking up a knowledge of aeronautics, in the hope of some day taking an active part in aviation, I am much impressed by your remarks anent the lack of interest displayed by the daily papers in the Monaco Aerial Rally. I feel that I must inform you that out here in Australia we are also deprived of a knowledge of these matters, which it is our right to know."

"We saw in the papers a few weeks ago that a man named Marty had been killed whilst flying, but that is about all that was said. If, as I suppose, it was poor Philippe Marty that was killed, I think that his position as a successful pilot entitled him to a bit more of a report than that. It took the loss of Gustav Hamel to wake them up for a few days, when they reported that he was missing, and then proceeded to tell their readers, two per cent. of whom had never heard his name or heard of his wonderful flights taking place almost daily in the old country, who he was in the world of flight."

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Turning his attention to flying in Australia, my correspondent continues: "On May 30th, M. Guillaux gave an exhibition of looping the loop at the Agricultural Show grounds, Melbourne. The performance was, of course, a revelation to the large crowds which had gathered both inside and outside the ground. I roughly estimate it at 25,000. A feature of the gathering was the great number of motorists who sink all their self-respect, if they have any, and get a free show rather than pay the few shillings necessary to admit them to the ground, a matter on which I was pleased to see you scathingly write a few weeks ago."

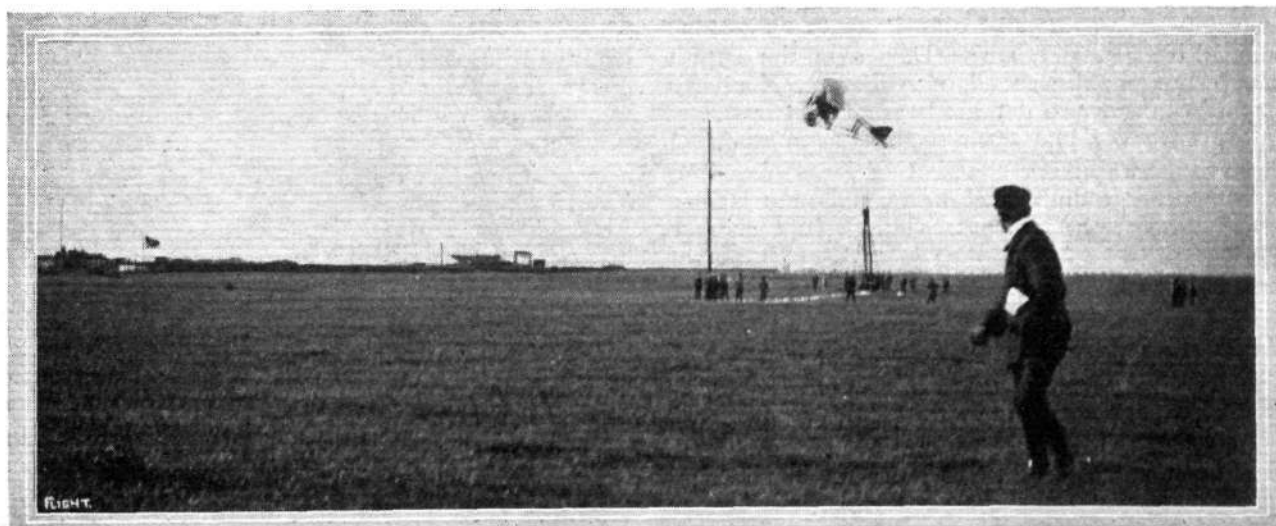
"It was the first time a monoplane had been flown publicly in Melbourne, although the Army aviators have flown one at their private grounds at Point Cook, fifteen miles from Melbourne, but it has long since become a total wreck. They are now flying two B.E. biplanes, and are getting pretty good results. On one occasion they flew over the bay and saw the landing of the new Governor-General. Later Lieut. Harrison with a passenger flew to Queenscliff and back without landing, a distance of about 80 miles." Finishing his letter with a criticism of the way the local daily papers report the flying meetings, Mr. Johnston says: "The evening papers on Saturday gave a report of Maurice Guillaux's looping and upside down flying, which for barrenness surpasses anything I have read in connection with flying matters. The daily papers on Monday tried to infuse a little life into their reports by going into what they are pleased to call 'details.' What would the lay mind make of this? 'The Blériot monoplane used on Saturday was driven by a rotary engine of the usual aeroplaning type.' 'Guillaux has announced his intention to fly Mr. Hordern's hydroplane from Sydney to Melbourne, a flight that has not been attempted yet. The distance is roughly 500 miles.'"

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Whilst Mr. Hucks was trying out his new 60 h.p. looping Blériot at Brooklands recently, rain started to fall. He was at a good altitude, so instead of landing he just turned his machine upside down and escaped the showers. Apparently, the modern aeroplane is quite a useful thing to have about the house.

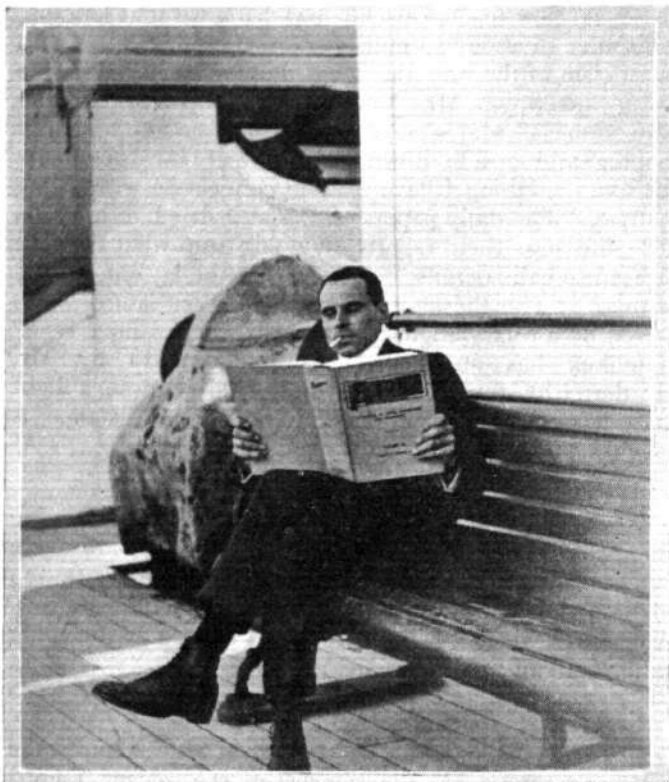
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I had a chat with Mr. Sippe at Brooklands the other day about his experiences at the recent Vienna meeting, for which it will be remembered an 80 h.p. Bristol biplane had been entered. Unfortunately a refractory engine prevented Mr. Sippe from doing much flying over there, otherwise he feels confident that the Bristol would have compared very favourably with both the French and German machines entered for the meeting. It is all the more regrettable that Sippe's engine should so far forget itself as to leave him in the lurch at such an inopportune moment, since his was the only British machine entered.



A QUICK-RISING COMPETITION AT THE RECENT VIENNA MEETING.—Our photograph shows Poulet, on an 80 h.p. Caudron biplane, winning the contest by clearing a wire 10 metres high, starting 30 metres away, giving a climbing angle of 1 in 3.

Mr. Ridley Prentice, who has been on a voyage to South America, as mentioned at the time of his departure some weeks since, returned to this country a few days ago. A second glance at Mr. Prentice is hardly necessary to realise the enormous benefit which has resulted from his well-earned holiday. Although Mr. Ridley Prentice was under doctor's orders not to worry his mind with



business cares, he was unable to keep his thoughts entirely from matters aeronautical, and apparently could not resist the temptation of perusing *FLIGHT*, as evidenced by a photograph on this page taken in the South Atlantic on board ship. With Mr. Prentice looking and—he tells me—feeling so fit, things may be expected to hum even more than they are already doing at the “G. A. C.”

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A good many strange things happen to a pilot in the course of his career, but one of the oddest occurrences which have come to my knowledge struck Louis Noel recently when he was flying from Paris to Folkestone accompanied by Miss Trehawke Davies, in the latter's Blériot. In the neighbourhood of Abbeville, Noel had to come down in order to get his bearings, as mist and rain clouds prevented him from seeing the ground. A landing was successfully effected, but as the machine was running along the ground, Noel discovered—too late—a barbed wire fence right in front. The Blériot charged the fence, but by an extraordinary stroke of luck the propeller, which was still revolving, happened to be in a horizontal position for the short fraction of a second necessary for it to pass over the fence wire, so that no damage was done beyond a few scratches on the back of the propeller. And it was but a few minutes before Noel and Miss Davies were on their way again making for the French coast.

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In connection with Mr. Manton's visit to Leagrave last week, his mechanic Mr. Marmaduke Marsden had an unpleasant experience which also had its humorous side. Not being able to find a reliable night watchman

to guard the machine in its tent, he elected to do the job himself. During the night, however, it came on to rain very heavily, and the rain found its way into the tent right on the spot where Marsden was sleeping. He was quickly drenched to the skin, and the aeroplane itself was getting very wet before he found the owner of the tent to repair the leaks. The night was still young and being a long way from dry garments he divested himself of his clothing, and improvised a suit composed of two sacks, tearing out holes for his head, arms and legs, the “suit” being held in position by strings round the waist. When Mr. Manton arrived at the tent in the morning the incongruity of a modern aeroplane receiving its morning toilet at the hands of what appeared to be a primeval cave-man, he describes as the funniest sight he has enjoyed for a very long while.

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The ever-growing list of “professionals” who have made the jump from the slanting boards to the pilot's seat has received a new addition in Mr. Chas. Weber, of Budapest, who has taken his “ticket” recently at the Grahame-White School at Hendon. Mr. Weber, who is an acrobat by profession, and who has appeared on many of the London halls, has done a considerable amount of flying on various machines in Hungary during the last two years, and has had several rather exciting experiences. On one occasion when Mr. Weber was flying for his ticket on a monoplane fitted with an experimental engine, and was doing some very artistic figures of eight, the engine and the machine dissolved partnership. The return to earth was nothing like as graceful as had been the figures of eight; in fact, it was very decidedly a case of “boys cassy.” Fortunately Mr. Weber was not seriously hurt,



Chas. Weber, the Hungarian pilot who has taken his brevet at the Grahame-White School recently.

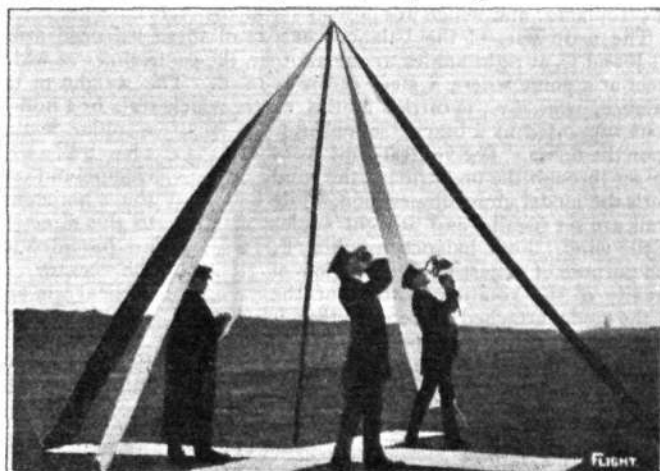
but his judgment got the better of his patriotism, and he decided to journey to this country to learn flying on a real aeroplane.

“ÆOLUS.”

THE DONATH SIGNAL MIRROR.

A METHOD of visual signalling in broad daylight by electricity has been recently introduced by Professor Donath of Berlin. The principle upon which it is based is that at extremely high temperatures the light transmitted from incandescent lamps is greatly augmented, without a corresponding increase in the consumption of current. In consequence thereof, however, the life of the lamps is much diminished; but as, in signalling, the duration of a flash is so short, this consideration is entirely negligible, as many messages

fitted with a special filament, and is so designed that the lamp can be adjusted axially inside the parabolic mirror, as may be required in order to transmit a parallel beam of light. The mirror and lamp are carried on a handle which is held by the signaller, the switch controlling the supply of current to the bulb being mounted on the handle. Above the top of the lamp is a sighting tube through which the signaller observes the point with which he desires to communicate, and by depressing the button on the

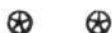


From the Scientific American n.

On the left, an observer in an aeroplane is shown in the act of transmitting a message to the ground, and on the right an observer is seen reading a message, while a signaller is standing by ready to reply thereto.

can be transmitted before renewal of a lamp becomes necessary. It is stated by the *Scientific American* that the full equipment necessary for signalling by this means, including a battery for the supply of electric current, weighs only 11 lbs., and hence the device is especially adapted for use on aeroplanes and airships.

The signal mirror itself, which is similar in appearance to that used in the motor headlight, contains a small incandescent bulb



Aeronautical Society of Great Britain.

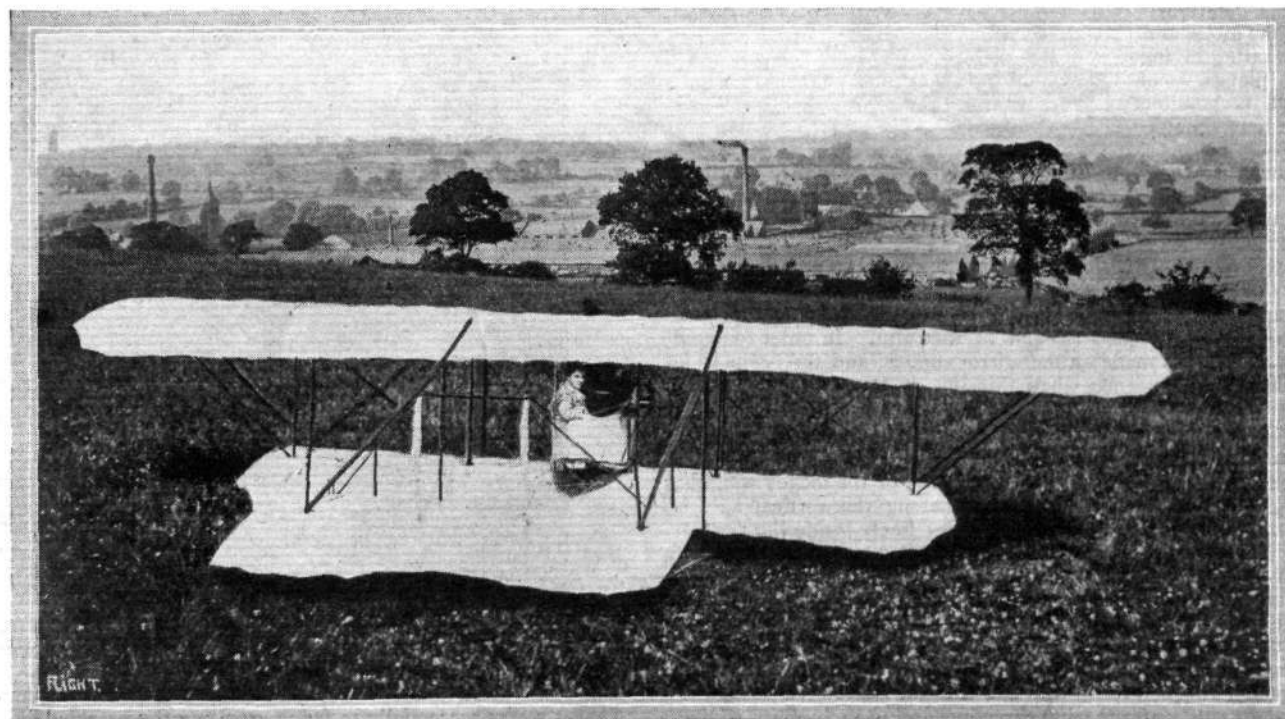
IT is officially announced that the date of the Associate Fellowship Election has been postponed until the middle of September, in order that candidates may be able to take advantage of the second part of Rule 28 with regard to payment of subscriptions.

lamp handle he may send out flashes of varying duration—a short flash (say) of two seconds corresponding to a dot and a longer one, of about six seconds, to a dash. Thus, by the adoption of some conventional system or code, such as the Morse alphabet, communication with distant points can readily be made. Under normal conditions, it is said that signals may be transmitted over a distance of about four miles.



The Trans-Atlantic Flight.

THE several alterations to the Curtiss flying boat "America," including the fitting of a third engine, not giving the required results, it is announced from Hammondsport, N.Y., that the hull is to be rebuilt. The attempt to cross the Atlantic is, therefore, postponed to October.



Recently Mr. Prosser had occasion to visit the Austin Motor Co.'s works at Northfield, Birmingham, when he required some work done to his engine, and he adopted the plan of making his call *via* the air. Our photograph shows Mr. Edwin Prosser in the pilot's seat of his biplane soon after landing in the field adjoining the Austin works, the extent of which may be gauged from the enormous range of buildings seen in the picture.

AN AERODYNAMIC BALANCE.

AMONG the apparatus exhibited by the Cambridge Scientific Instrument Co. at the Royal Society Soirée held on the 13th ult. was the Aerodynamic Balance which has been constructed for the Aeronautical Department of the Massachusetts Institute of Technology, U.S.A. The apparatus, which is shown in the accompanying illustration, is similar to those that were designed by the N.P.L. Staff for the experimental investigation of the stability of aeroplanes, and which are now in use at the N.P.L.

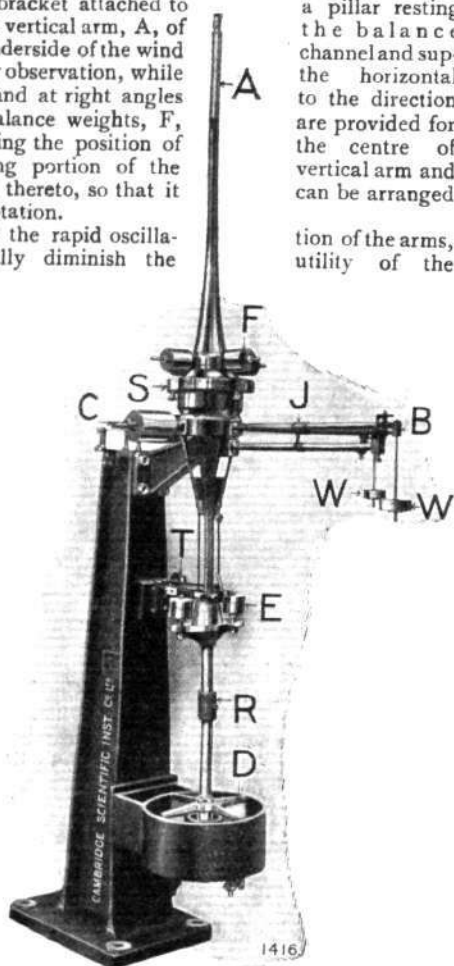
The main part of the balance consists of three balanced arms, A, B and C, at right angles to one another, the centre lines of which meet at a point where a steel centre is fixed. The weight of the balance, arms, &c., is carried by this centre which rests in a hollow cone supported by a bracket attached to upon the floor. The vertical arm, A, of passes through the underside of the wind ports the model under observation, while arms are set parallel and at right angles of the wind. Four balance weights, F, the purpose of adjusting the position of gravity of the rotating portion of the of the model attached thereto, so that it to lie on the axis of rotation.

In order to prevent the rapid oscillation which would materially diminish the balance, dashpots are fitted at the several points—the largest being shown at D, where it is attached to an extension of the vertical arm below the point of support, the outer casing being carried on the vertical pillar. This dashpot damps the motion of the three principal arms of the balance in all directions.

The arrangements made permit of the measurement of the forces acting upon a model, along the three fixed rectangular axes, as well as the moments of the forces about those axes. The determination of the forces and couples acting in the three planes—of which it is possible to make four simultaneously—is, however, rarely necessary, locking arrangements being provided for the purpose of reducing the number of degrees of freedom as may be desired. For the purpose of fixing the beams in a definite position, however, cross wires are attached opposite to each beam, and these are observed against lines ruled on mirrors attached to each balance arm. In order to avoid parallax, the line is made on the mirror surface, and the beam is in its position of equilibrium when this line is midway between the crosswire and its image, for any position of the observer's eye.

The forces on the model are counterbalanced by weights, W, which are suspended from the ends of the horizontal arms, a fine adjustment being provided by the movement of the jockey weights, J, along the arms. The force acting along the vertical axis is transmitted by a vertical rod, which slides freely inside the vertical arm of the balance, to a horizontal weighing lever, by means of which it is measured. To permit of rapid changes in the sensitivity of the balance, provision is made whereby weights can be placed upon the lower part of the vertical arm. The rotation of the balance about the vertical axis is prevented by a torsion wire, the torque being measured on the torsion head, T.

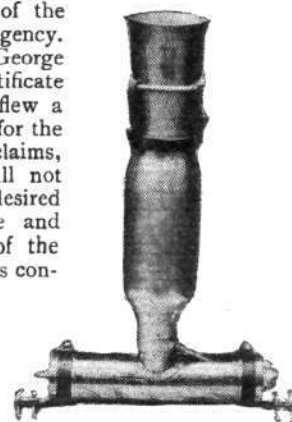
The model attached to the vertical arm can be rotated about two axes at right angles to the wind direction and to each other, so that experimental observations can be made for the determination of the lift and drift, and of the couples acting upon an aeroplane at any angle of incidence to the wind.



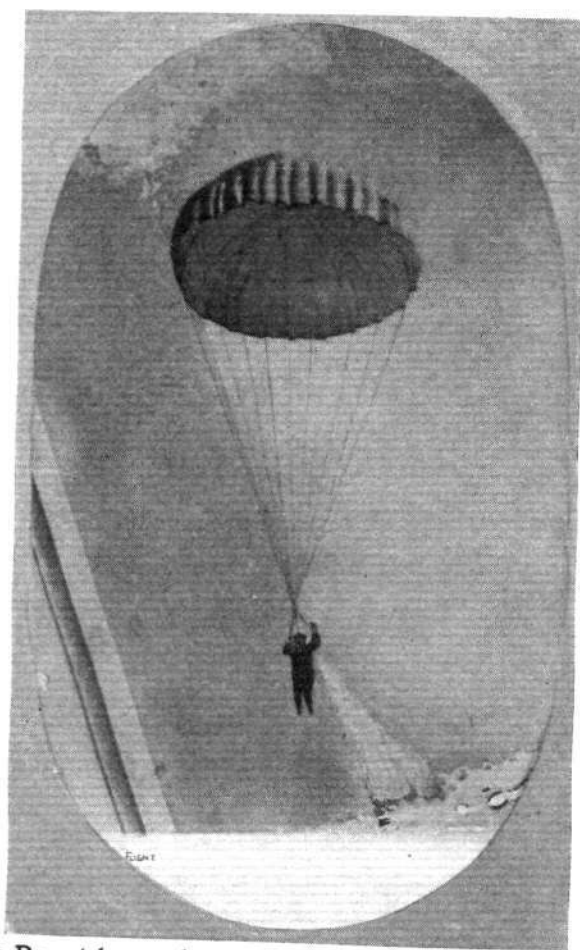
The Aerodynamic balance, similar to those designed and used at the National Physical Laboratory.

THE PRENSIEL LIFE-SAVING PARACHUTE.

THERE have been many advocates of the parachute as a means of saving life in case of accident to an aircraft, but this aspect of the problem has presented one or two difficult propositions that are not easily got over. Pegoud and others have demonstrated that it is possible to descend from an aeroplane by means of a parachute, but these descents have been made under pre-arranged conditions, whilst the recent fatal accident to Mme. Cayat de Castella has shown that the danger of the parachute not opening is a serious contingency. It is this latter problem at which Mr. George Prensier—who obtained his pilot's certificate in January, 1912, and for some time flew a Blériot at Hendon—has been working for the last two or three years, and has, he claims, just produced an apparatus which will not only fully open the parachute at the desired moment, but will force the parachute and whatever is attached to it well clear of the aircraft. Briefly, the Prensier apparatus consists of a steel cylinder containing compressed air at a high pressure, which is suitably mounted on the aircraft. Connected to this cylinder is a vessel in which is packed the parachute, which is attached to a movable seat occupied by the pilot. On opening a valve, the compressed air is admitted to the vessel containing the parachute, which is shot out of the container with some considerable force, opening fully immediately, and carrying the pilot and seat with it—leaving the machine to look after itself. A general idea of the apparatus can be obtained from the accompanying illustration, which shows Mr. Prensier's latest model. The whole apparatus is exceptionally light, weighing only about 30 lbs., and



The apparatus.



The Prensier parachute, after having been "discharged," descending open near to one of the pylons at Hendon.

is so constructed that it can easily be fitted to most modern machines. That it works successfully so far as expelling the parachute, opening the same, and lifting the weight of a man is concerned has been satisfactorily demonstrated on several occasions, and further developments will be awaited with interest.

AERODROME AND EXHIBITION FLYING.

FLYING AT HENDON.

THE first event on Thursday of last week was the departure of Eugene Renaux for France on the 120 h.p. Maurice Farman which he flew in the London-Paris race. He left at 11 o'clock accompanied by Mme Renaux, and arrived in due course at Calais. Owing to the high wind, the biplane speed contest arranged for the afternoon had to be abandoned, so only exhibition and passenger flights were made. The first of these was made by Louis Noel, who ascended just before 3.30 p.m. on the 70 h.p. G.-W. Maurice Farman. He was followed five minutes after by R. J. Lillywhite on the 50 h.p. G.-W. bi-rudder 'bus who put up a really fine exhibition of "figure flying." The next up was R. H. Carr, who did some fast flying on the 80 h.p. Gnome-Morane-Saulnier, and shortly after, Pierre Verrier left for Farnborough on a new 70 h.p. Aircraft-Maurice Farman. Noel then took up a passenger on the Maurice Farman, after which W. L. Brock went up on another 80 h.p. Morane-Saulnier, and Lillywhite made four passenger flights on the bi-rudder 'bus. Carr also made another flight on the Morane-Saulnier, and A. E. Barrs took up a passenger on the bi-rudder 'bus. The last flight of the afternoon was made by Noel, who took up a lady passenger on the Maurice Farman.

On Saturday the wind had increased in violence considerably, necessitating the abandonment of the 12-mile speed handicap for the Stewart Dawson Trophy, which was the principal event down on the programme for the Blériot Meeting. The usual exhibition and passenger flying was also somewhat curtailed. Shortly after 3 o'clock W. Birchenough, who had been absent from the week-end meetings for some time, made a very fine flight on the G.-W. Maurice Farman. He was blown about considerably by the wind and received several nasty "bumps." Louis Noel then took over the machine, and he also had a very rough time of it. After waiting for half an hour or so in hope of the wind abating, Noel made another flight, but found conditions just as bad. At 5 o'clock R. H. Carr went up on the 50 h.p. G.-W. tractor biplane "Lizzie" with the intention of looping if conditions proved favourable. After making a sharp turn on getting off he commenced a circuit of the aerodrome, but when at the north end of the latter over the trees, he made a sudden drop

and disappeared behind the trees. The aerodrome car and several mechanics and others at once went to his assistance, but it was some time before we could locate the machine from the top of the megaphone stand, from which point of vantage it appeared to be right amongst the trees. At last the car came back with the news that both pilot and machine were all right, a safe landing having been made in a medium sized field. Noel made one more flight on the Maurice Farman before it was returned to the hangar, and shortly after 7 o'clock Carr returned on "Lizzie," appearing over the trees and dropping into the aerodrome like the proverbial streak of lightning. A large party of the Australian Mounted Cadets paid a visit to the aerodrome during the afternoon and made a tour of inspection round the hangars.

Sunday was still very windy, and a succession of heavy showers of rain throughout the afternoon made matters far from pleasant. Several flights, however, were put up in between the showers by the following: W. Birchenough and Louis Noel both busy with passengers on the Maurice Farman, N. Howarth and R. J. Lillywhite on the G.-W. bi-rudder 'bus, W. L. Brock on the 80 h.p. Morane-Saulnier, making an altitude flight of about 7,000 ft., R. H. Carr on a similar machine, and later on the G.-W. tractor biplane "Lizzie" on which he made two loops and a tail-slide at an altitude of about 1,500 ft. In the morning, Edward Prosser, who took his pilot's certificate some two years ago, arrived from Bedford on a Caudron biplane.

The Ninth London Aviation Meeting opens to-morrow (Saturday), at 3 p.m., and the principal event will be a speed handicap for the Sassoon Cup (presented by Mr. E. V. Sassoon) in two heats and a final.

On the next day Sunday, special exhibition and passenger flights will be made. The aerodrome will be open to the public at 12 noon on the third day, Bank Holiday, and the first event down on the programme is a bomb-dropping competition for the London Aerodrome Cup. Two other events will be a 12-mile speed handicap for the London Cup presented by Messrs. Mappin and Webb, and a 16 mile cross-country race for the "Desborough" Challenge Bowl, presented by Lord Desborough.



Photo Cornell.

A view of Harrogate taken from Mr. W. Rowland Ding's aeroplane at a height of 1,600 ft. In this can be seen the Royal Baths, Kursaal, Majestic Hotel, Cairn Hydro and Harrogate Hydro.

FLYING AT SHOREHAM.

ONCE again the weather was unkind to Shoreham on the occasion of the Blériot meeting last Saturday and Sunday. On both occasions the wind was blowing at a velocity well in the neighbourhood of 50 miles per hour, so the attractive programme that had been arranged by the management had to be abandoned. The visitors, however, were not disappointed, for on both days they witnessed a magnificent display of airmanship by Eric Pashley, who pluckily braved the elements on the new 50 h.p. Pashley biplane. On one occasion he was timed over a measured distance with the wind, and his speed worked out at 94.2 m.p.h., whilst when flying against the wind he hardly made any progress at all.

A four-day August holiday meeting opens to-morrow, Saturday, and weather and other circumstances permitting a number of interesting events will take place each day. To-morrow is the *Weekly Despatch* day, and the principal events will consist of looping demonstrations by J. L. Hall on his 50 h.p. Avro, special exhibitions by G. M. Dyott on his 50 h.p. Dyott monoplane, and in the evening illuminated night flying and firework displays. Coupons from the *Weekly Despatch*, which admit holders to the aerodrome at half-price, will be drawn by ballot to decide the winners of the tickets for three free flights. On Sunday, in addition to exhibition and passenger flights, there will be more looping by Hall. A cross-country race to Tunbridge Wells and back, a distance of about 70 miles, for a cup and cash prize presented by the *Daily Mail* will be flown on Monday. The entries are:—

J. L. Hall, 50 h.p. Gnome-Avro biplane; Eric Pashley, 50 h.p. Gnome-Pashley biplane; J. Alcock, 100 h.p. Sunbeam-Maurice Farman biplane; G. M. Dyott, 50 h.p. Gnome-Dyott monoplane; W. H. Elliott, 50 h.p. Gnome-Henry Farman biplane; Cecil Pashley, 50 h.p. Gnome-Henry Farman biplane; Pilot to be chosen, 120 h.p. Austro-Daimler-Martinsyde monoplane.

The pilots will leave Shoreham at one-minute intervals, and will make a compulsory stop of half an hour at Tunbridge Wells on Liptrap Estate. Both at Shoreham and Tunbridge Wells there will be flying displays during the afternoon and evening, whilst at Shoreham, Hall will give looping demonstrations, and in the evening there will be illuminated night flying and fireworks. The principal events on Tuesday will consist of a speed handicap for a cup and cash prize, a bomb-dropping competition, and an altitude contest, whilst in the evening a military tattoo will take place.

Mr. B. C. Hucks at Scarborough and Darlington.

LAST week Mr. Hucks tested his new 60 h.p. looping Blériot at Scarborough. On Wednesday evening he ascended from the Deepdale Golf Course, and during a flight of half an hour executed 30 loops, 15 of these being carried out consecutively. The majority of these loops Mr. Hucks described over Filey, and it is rather appropriate that he should have given what was undoubtedly his finest looping display to date over the territory where he practically commenced his flying career with erratic hops on an early type Blackburn monoplane. Mr. Hucks' two-seater Blériot had already been packed up for transport, when there were so many applications for passenger flights that it was again assembled, and kept Mr. Hucks busy for several days.

On Saturday last Mr. Hucks journeyed to Darlington, but found such a terrific wind that the promoters of the demonstration, the South Durham and North Yorkshire Horse and Cattle Show, suggested that the flights should be postponed. In spite of this, however, Mr. Hucks went up in the gale, but could not loop the loop. He, therefore, arranged to give a free demonstration of looping over the public park on the following Monday.

August Bank Holiday and Tuesday, Mr. Hucks appears at Southampton, and on Wednesday at Meyrick Park, Bournemouth.

Mr. Marcus Manton at Luton.

ON Saturday last Mr. Manton was engaged to fly in connection with the Flower Show at Legrave, near Luton. All the afternoon the wind ranged between 50 and 60 miles an hour, and as the aeroplane tent was in the most exposed quarter of the field it was not considered prudent to attempt to take the machine out for fear of the tent falling down. At 6 o'clock there was a lull, during which the Blériot was safely got out, and Mr. Manton made two fire flights, being blown about in all directions and finding the ground gusts very tricky when landing. In a wind still in the region of 50 Mr. Manton then went up and made three clean loops, apparently being untroubled by the occasional fierce gusts. On his next flight, when he made three more loops and an S dive, he was compelled on one occasion to warp to such an extent that his wrist came in violent contact with the side of the fuselage and smashed his wrist watch. On several occasions he was kept stationary, and once looked like being blown clean away from the ground. On the day before the flights fresh warping cables had been sent down, but they were found to be unsuitable. To send for fresh ones would have meant too long delay, so Mrs. Hewlett, of Messrs. Hewlett and Blondeau, whose works are near Luton, kindly stepped into the

breach and made entirely new cables, generally rendering most valuable assistance during the visit. On Wednesday of this week Mr. Manton flies at the Heavitree Flower Show, Exeter.

Good Work on Blackburns.

ON Wednesday, July 22nd, on the occasion of the Yorkshire Agricultural Show at Bradford, a considerable amount of flying was done on Blackburn 80 h.p. monoplanes. Mr. Sydney Pickles, flying the latest type machine, carried four passengers between Leeds and Bradford. The first passenger was the Lord Mayor of Leeds (Mr. E. A. Brotherton), who turns the scale at 14 stone. It is believed that this is the first time that a Lord Mayor has visited a neighbouring town by air, and he expressed himself as being delighted that he should have that honour, and also that it should be on a Blackburn monoplane built in his own city. Mr. Pickles' second passenger was Mr. H. F. Atter, who is Clerk to the West Riding Rivers Board. Two other passengers were carried between the two cities.

Mr. Harold Blackburn, also flying an 80 h.p. Blackburn monoplane, opened the first air-line service in Great Britain between cities flying to a time table. He was doing the journey between Leeds and Bradford every half hour from 10 a.m. to 5 p.m., and only missed the 11 o'clock and 11.30 a.m. flights, which speaks well for both the machine and the pilot. Mr. Blackburn's first passenger was the Lady Mayoress of Leeds, so that both the Lord Mayor and Lady Mayoress made the journey from Leeds to Bradford, a distance of nine miles, in Blackburn monoplanes.

During the afternoon Mr. V. Gaskell Blackburn (who, by the way, is no relation to either Mr. Robert Blackburn, the constructor, or Mr. Harold Blackburn, the pilot) arrived from York on his 70 h.p. Flanders biplane. He encircled the show ground three times, and then alighted beautifully. Since the Flanders machine was overhauled and reconstructed, Mr. V. Gaskell Blackburn has been doing some very good work in Yorkshire.

Thursday was a very bad day for cross-country work, being very windy and cloudy, but Mr. Pickles and Mr. Harold Blackburn both made the return journey. Mr. Pickles, in addition, made two more attempts to reach Bradford, but on both occasions he was obliged to return after getting within a mile or so of his destination, through running into mist and rain. Flying was out of the question on Friday and Saturday, as practically a full gale was blowing.

On Sunday afternoon, Mr. Pickles flew from Leeds Aerodrome to the Knavesmire at York, a distance of 23 miles, which was accomplished in 18 minutes, the machine attaining a speed of 105 m.p.h.



ROYAL FLYING CORPS (MILITARY WING).

WAR OFFICE summary of work for week ended July 25th, 1914:—

No. 2 Squadron, Montrose.—This squadron reached Montrose from Netheravon early in the week, complete in personnel, machines and transport. One machine was badly damaged, en route, but the pilot was unhurt. The work during the week has been confined chiefly to overhauling machines and transport after the journey, and, as regards one flight, in preparation for manoeuvres in Ireland.

Nos. 3 and 4 Squadrons, Netheravon.—The course of instruction for "regular" officers was continued. These officers were practised in reconnaissance work, being taken up for cross-country flights over the country in the neighbourhood of Salisbury Plain. Work in connection with the observation of artillery fire was also carried out. Major Raleigh, commanding No. 4 Squadron, made a short cross-country flight by night, carrying a passenger, and landing at Netheravon by means of flares.

No. 5 Squadron, Fort Grange, Gosport.—The pilots of this Squadron carried out several cross-country reconnaissances. Work on the erection of portable sheds was continued.

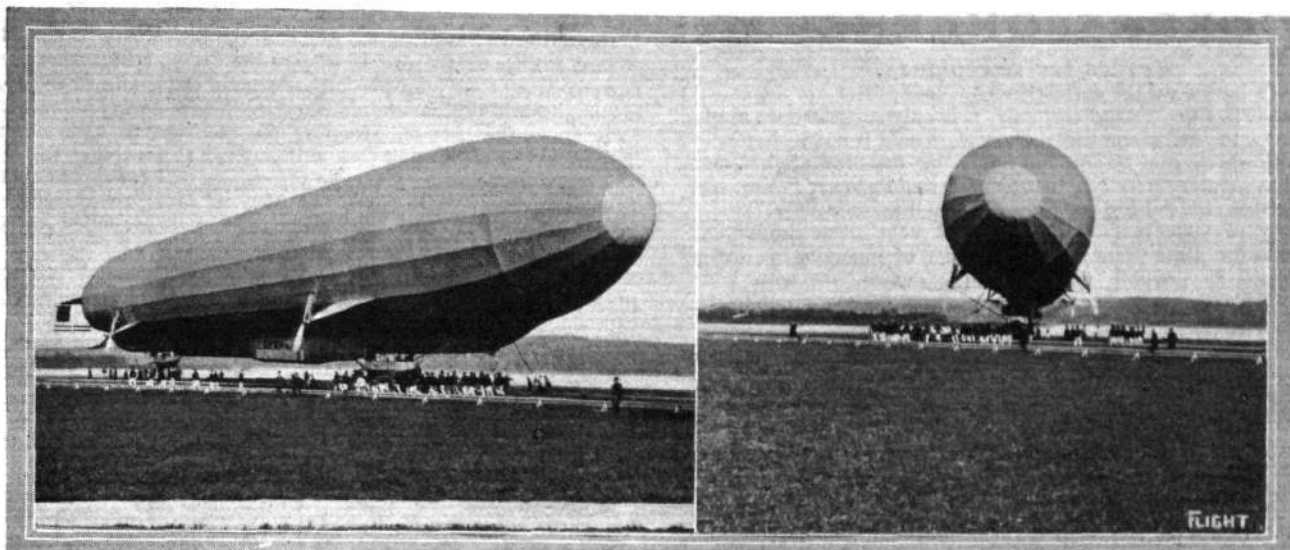
No. 6 Squadron, Farnborough.—Reconnaissances were made daily in connection with the training of the 1st and 2nd Division.

Nos. 1 and 7 Squadrons, Farnborough.—These two new Squadrons are gradually being built up.

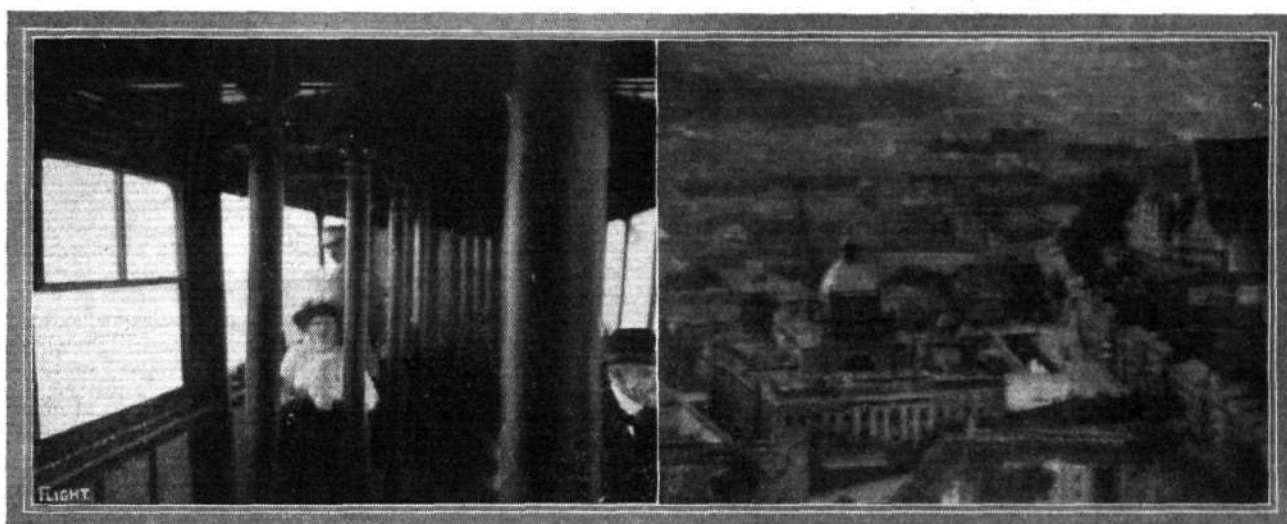
Aircraft Park, Farnborough.—Repair work to Aircraft and Mechanical Transport and the technical instruction of recruits was carried out daily.

Headquarter Flight, Farnborough.—Experiments of various kinds were continued. The Kite Section returned from Salisbury Plain, where they have been working in conjunction with the artillery.

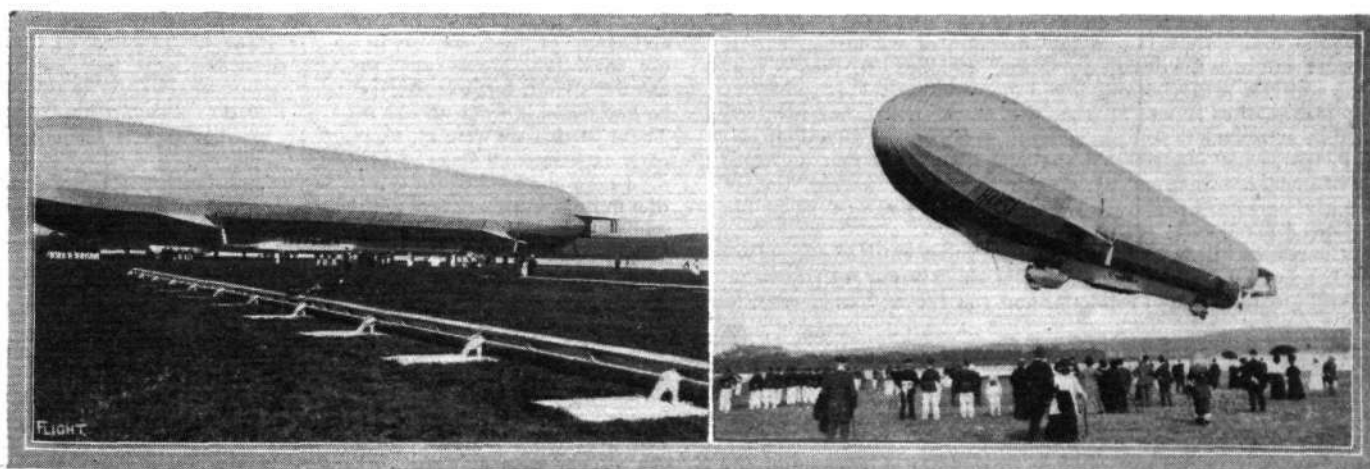
General.—The Military Wing suffered a severe loss on the 21st inst. by the death, as the result of an aeroplane accident at Fort Grange, of Lieut. L. C. Hordern, Lancashire Fusiliers and of No. 5 Squadron. This officer had been in the corps since November, 1913, and had done a considerable amount of flying on Henry Farman machines. The funeral took place on Friday at the Garrison Church, Fort Rowner, and Haslar Cemetery. Serjeant Campbell, his passenger at the time of the accident, is progressing favourably.



The "Hansa" airship, from photographs by Sir John Shelley.



Lady Shelley in the cabin of the "Hansa" dirigible whilst travelling on the 85 miles trip between Potsdam and Forst. On the right is a snap from the "Hansa" of the Stadt-Schloss, Potsdam. Photographs by Sir John Shelley.



TWO MORE VIEWS OF THE "HANSA" DIRIGIBLE.—On the left, the guide rails to the airship shed being seen more clearly. Photos by Sir John Shelley.

A Gigantic Hangar.

IN the presence of a number of friends of M. Clement Bayard, the first arch of what it is claimed will be the largest hangar in the world was erected in place at Lamotte Breuil on Saturday last. It will be a regular airship harbour capable of sheltering four of the largest airships. The principal dimensions are: length, 185 metres; width, 100 metres; and height at the entrance, 50 metres. It is to be ready for use by the middle of December.

The Photographing of British Military Aircraft.

SPECIAL attention is again being drawn by the military authorities to the fact that the photographing of British military aircraft is not permissible within a distance of 40 yards, nor may a tele-photo lens be used. No photograph is to be taken of air stations without special permission from the officer in command. Photographers are warned that any infringement will entail prosecution under the Official Secrets Act.

CORRESPONDENCE.

Brakes for Aeroplanes.

[1880] I have read the correspondence in FLIGHT on the above subject, and, if I understand correctly, it is only suggested to apply a brake after the aeroplane has alighted. Would it not be better to use a brake which can be applied *before* the machine alights, and thus land in greater safety? Most people would answer "Yes, but as the speed is reduced the machine would fall more rapidly."

As many of your readers are aware, I have been conducting experiments for some years with the object of including as many "desirables" as possible in one simple device, so, with your permission, I will give the net result of these experiments up to the present.

The following is a design of a combined propeller, lifter, brake, steerer and stabiliser:

The upper figure represents an end elevation of a propeller of the paddle-wheel type, revolving in the direction of the arrow, C, on a stationary crank shaft, L, having feathering planes, B¹ to B⁴, worked by means of connecting rods, D, one end being attached to said planes and the other end to crank, E, the planes, B¹ to B⁴, being pivotally attached to the arms A¹ to A⁴. The dotted curves, M, show the position of the planes, B¹ to B⁴, at various points in a revolution. The machine is travelling in the direction of the arrow, F.

Here are two chief peculiarities in this design.

1. It revolves in the opposite direction to that of an ordinary paddle-wheel.
2. The hollow surface of the blades or planes is on the outer side.

As a propeller, the thrust is largely obtained from A³ to A², a very rapid movement of the near edge G of plane taking place within that quarter revolution. Compare the angle made with plane B³ and arm A³, with that made by plane B² and arm A².

As a lifter, the hollow surface of plane presses down on the air from A² to A¹. Further, a carriage wheel travels horizontally at three different speeds at the same time, viz., the centre travels at the same speed as the carriage; the point touching the ground does not travel at all; and the point opposite, i.e. the top of the wheel, travels horizontally at *double* the speed of the carriage.

Now apply this law to the above design. If there were no "slip," A³ would be stationary in the air and A¹ would be travelling forward at *double* the speed of the aeroplane. With what result? Either an enormous increase in the lift, or the capacity of flying more slowly on account of the increased lift.

But as there *would* be some "slip," A¹ would be travelling forward at *more* than double the speed of the aeroplane and the lift still further increased. In a coarse pitch propeller the hollow surface of plane would be as at M¹, the others remaining practically unchanged. On this and another point I had a stiff argument with the late S. F. Cody at the Olympia Aero Show of 1913, and who remarked after some discussion, "I don't see it, but if I do I'll give way." I was able to demonstrate my points by means of a model, and, like a good sportsman, he gave way.

To use the device as a brake, it is only necessary to partially revolve the crank shaft, L, in the direction of the arrow, C. If the reader will turn the design 45° in that direction, so that N is at the top and NM at the bottom, it will show him the relative positions of the planes B¹ to B⁴ and M when the crank shaft L has revolved 45°. The aeroplane is still travelling in a horizontal direction, viz. O to P, but he will observe that the plane at NM forms a greater angle of incidence than at B¹ when A¹ to A³ is vertical, and of course gives greater lift and helps to support the machine when the flying speed is reduced.

If the reader will turn the design still further until A² and A⁴ are vertical, he will notice that the plane B² (which is now at the bottom) has a still greater angle of incidence and the lift is double what it



Flying Over Monte Rosa.

DURING a trip from Novara in Italy to Vige, Valais, Switzerland, on the 26th inst., the Italian pilot Landini on a Gabardini monoplane flew over Monte Rosa in the Pennine Alps, the highest point of which is 15,217 ft. He flew by way of the Nordengrat, the Gornergrat, the Findelen Glacier, and then along the Zermatt valley. He was accompanied by Dr. Giuseppe Lampugnani. It is claimed that during the flight Landini beat the Italian height record for pilot and one passenger with 3,450 metres. The old record to the credit of Pettazzi was 3,275 metres.

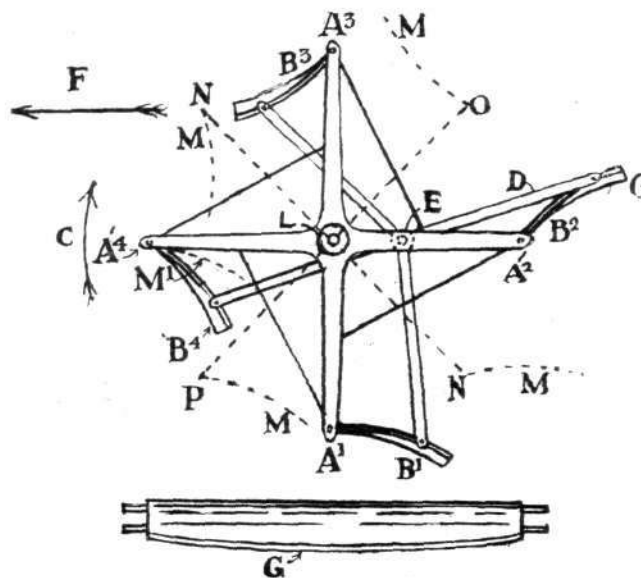
New Italian Height Record.

ON the 27th inst. at Milan, the Italian pilot Desbriueres on a Gabardini monoplane succeeded in improving on the Italian height record by going up to 4,950 metres. The previous record was 4,700 metres made by Lieut. Salome.

was when B¹ was at the bottom. The machine is still travelling horizontally, viz. from A³ to A¹, and the brake may be considered "hard on," or nearly so. If we turn the design still further (which is equivalent to the pilot partially revolving the crank shaft L), the machine would run backwards when the planes at any point from B² to B³ are at the bottom, assuming the machine to have alighted. This gives the same result (but with safety) as reversing the thrust of a screw propeller by reversing the engine, which I should consider most dangerous. Is it not a fact that in order to overcome the torque of a screw propeller, the engine and propeller are fixed slightly on one side of the lateral centre of gravity?

If so, and the engine is reversed, which means the torque of propeller is reversed, what is going to prevent the machine from capsizing laterally?

In order to steer with this propeller, two would be fixed on a machine, one on either side of the fuselage, and just as an oarsman



may backwater with one oar and steer to right or left, so by converting only one propeller into a brake, an aeroplane may be steered.

To obtain lateral stability, divert the thrust of one propeller up and the other down at the same moment to counteract any tendency to capsize laterally. The lower figure shows a back view of plane B¹.

These details have not previously appeared in FLIGHT or any other journal devoted to aeronautics, and for lack of them a rather peculiar incident occurred at this year's Aero Show at Olympia. I attended most of the lectures arranged by the Aeronautical Society, and at one of them, on "How an Aeroplane is Propelled," I heard my invention quoted and wrongly described. It was not the lecturer's fault, for, in conversation with him afterwards, he told me he had taken it from an old copy of FLIGHT (March 18th, 1911). These particulars were as supplied by me, but it was then in its early experimental stage.

I note you are frequently advising modellers to make experiments of a more scientific nature; if they care to try this device on their models, they may obtain permission by asking. The No. of my English patent is 16402 of 1912.

JOSEPH CLARKSON.

Prestwich Park, near Manchester.



A Fatality at Juvisy.

LIEUT. VALENSI, of the French Navy, was killed on Monday through a fall from a height of 500 ft. when flying at Juvisy.

Renaux Crosses the Channel.

WITH M^{de}. Renaux as passenger on board his Maurice Farman, M. Renaux on the 23rd inst. flew from Hendon to Beaumarais, close to Calais. After a short rest he flew across to Hardelot.

From Paris Across Bavaria.

ON a Voisin biplane fitted with a 130 h.p. Salmson-Canton-Unné engine, Laporte, on the 22nd inst., set out from Villacoublay to fly to Bucharest and Constantinople with a view to securing the Coupe Pommery and the Prince Bibesco prize, &c. He was, however, brought down by a storm at Osterhofen on the Austro-Bavarian frontier, and in landing the propeller was smashed. The distance covered was about 850 kiloms. The machine carried a passenger, M. Sauval, as well as 450 kilogs. of fuel, &c.

Models

Edited by V. E. JOHNSON, M.A.

The Ladies' Model Competition.

THE ladies' duration model competition was held on Wimbledon Common on July 25th, under very trying weather conditions, since something like half a gale was blowing during the whole of the time. In spite of this fact some very fine flights were made. The competitors were permitted to submit models of any kind, either home-made or purchased, but the models must not be under 4 ozs. in weight. A special rising board was provided. The greatest difficulty was experienced, as one would naturally expect, under the circumstances, in launching the models. Once up in the air they were carried long distances by the wind, in one or two instances nearly off the Common. In spite of the high wind several of the models fought the wind for some time before turning into it, generally speaking rising to a high altitude whilst doing so. One model looped the loop in magnificent style, coming down to within about a yard of the ground at the finish and then rising again and making a very good flight.

The winner was Mrs. Frances Holt, who, flying a Houlberg model, succeeded in making a very fine flight of 67 secs. Miss May Bond and Miss Doris Bond, both flying Bond models, came second and third respectively. Both succeeded in making a single flight of 50 secs., but the former's average was rather the better. Mrs. Jannaway, flying a Jannaway model, accomplished a very long flight and a duration of 35 secs. Miss Powell, flying an Easedale tractor (a fearfully difficult machine for a lady to launch), was nevertheless successful in obtaining a duration of no less than 34 secs. A very fine performance considering that the machine was a single-screw model, and the day was such a bad one for tractors, that a tractor competition to be held there the same afternoon was postponed in consequence. Miss Dew, flying a Birmic model, accomplished a duration of 31 secs. Taking it altogether the meeting was quite a success, and we hope to see it repeated. The prizes, which consisted of a silver back brush, a mirror and comb in case, for the first prize; a case of six teaspoons and tongs for the second, and a biscuit box for the third, were presented by the Women's Patriotic Aerial League.

Mr. F. W. Jannaway's Olympia Weight-Lifting Model.

The following is a brief description of this model, which has made a very large number of excellent flights: Length, 4 ft.; span, 4 ft. 3 ins.; chord, 8 ins.; elevator, 20 ins. by 4 ins. Weight of machine 19 ozs. carrying a dead load of 5 ozs. Length of rubber motor, 3 ft. 8 ins., run on a triple gear of 10 strands each. Diameter of propeller, 13 ins. Fuselage of spruce, E-shaped section, $\frac{1}{2}$ in. by $\frac{1}{2}$ in. and well braced.

Planes constructed of 18 gauge steel wire and braced, covered with brown jap silk and proofed. Duration at trials 23, 28 and 5 secs. respectively. The model was slightly over-elevated in the last trial and came to the ground.

One of the chief points of interest about this model is that it is one of the very few really successful models that have been evolved fitted with three equal cogs or a triple gear. It would have been most interesting to have seen what it could have accomplished if a twin gear had been substituted for the triple one.

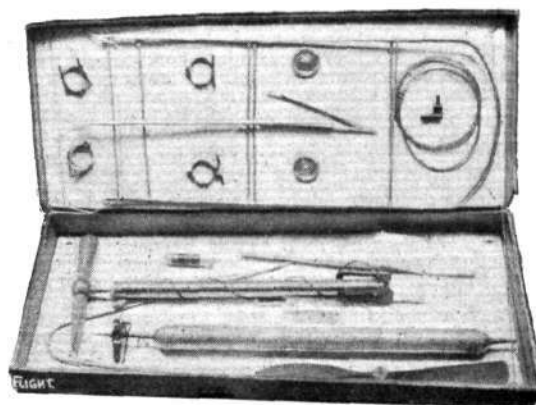
An Interesting German Model.

The following description and illustrations have been sent us by Mr. Carl Hochhaltinger, of Steyr, Germany:—

"Being a subscriber to your esteemed paper, I have frequently seen photographs of models, and I take the liberty to send you some photographs of a model which I have made and which works faultlessly. The model in question is an Etrich Taube; it has a span of one metre and weighs 120 grammes. All control organs are movable, the chassis is sprung, the propeller is a Chauvière running in ball-bearings. The machine can be dismantled to the smallest details in 3 minutes, and erected again in the same time. Apart from models of the best-known machines such as Blériot, Farman, Grade, Curtiss, &c., I have also a model balloon to be filled with gas, and having a small electric motor, which drives the two propellers on the left and right. The weight of the balloon complete in flying order, with motor and accumulator, is 600 grammes, the length of the balloon 180 centimetres, with a major diameter of 26 centimetres." [We shall be pleased to receive a photo and some further particulars of the model balloon for publication.]

Messrs. T. W. K. Clarke's Compressed Air Motored Machines and Parts.

During the present year considerable progress has been made with model aeroplanes driven by compressed air, and quite a large

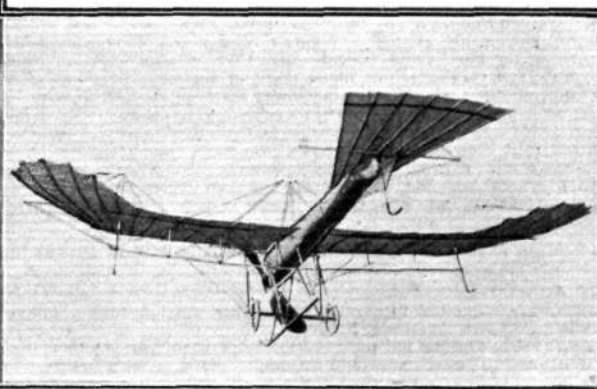
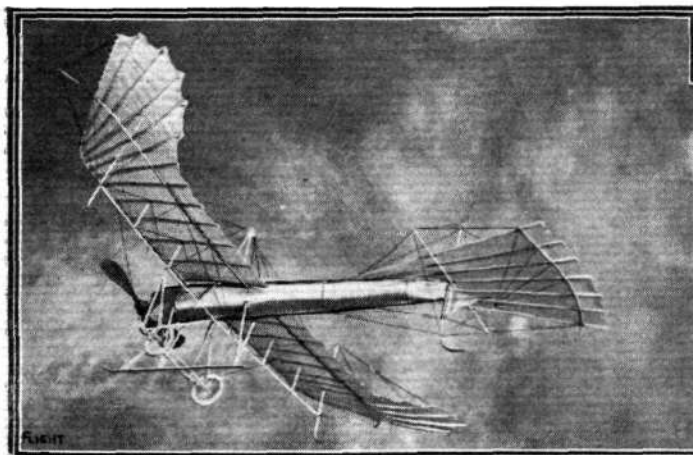


Messrs. T. W. K. Clarke and Co.'s box of parts for compressed air-driven model, including pump.

number of experiments have been made. Many prefer such models, even if their actual flight duration be not so great as that obtained with some rubber driven machines, because the machine is driven by a real engine and not by a twisted skein of rubber. Apart from their uses on model aeroplanes, compressed air motors can be used with even greater success to driven model hydroplanes and submarines; for the latter both steam and petrol cannot be used, and we are compelled to resort to a rubber, spring, electric or compressed air motor. The bubbles of air rising to the surface in the case of the last-named make the model appear so much more like the real thing.

Messrs. T. W. K. Clarke and Co. have a large selection of such motors and accessories in prices ranging from a guinea upwards.

Mr. Carl Hochhaltinger's Etrich Taube model.



The illustration given is taken from a photograph of one of their boxes of materials for building a complete model, of 34 inch span and fitted with a three-cylinder motor, a sprung chassis and landing wheels. Every part is finished save the planes, which require covering. Directions and plan are enclosed, and the vendors state that the machine can be fitted up in 10 minutes with the aid of a pair of pliers.

The price complete is 30s. The same model complete can be purchased for £2.

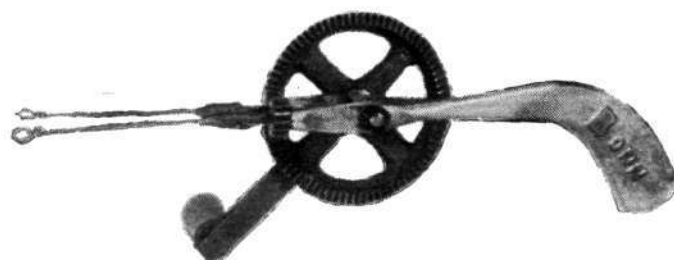
Modern Models.

Under the above title, Messrs. Arthur Pearson, Henrietta Street, have just issued a further addition to their "How Does It Work Series." This little book of some 126 pp., which is illustrated with 25 photographs and 46 diagrams, gives full particulars how to build and use: Model aeroplanes and hydro-aeroplanes, dirigibles, mono-rail models, wireless telegraphy, X-ray apparatus, submarines, &c., all of a simple and inexpensive character. The book is specially written for the beginner, and the price at which it is published, viz., 1s., should place it within the reach of anyone desiring to commence work on some of the most popular type of up-to-date models.

Messrs. J. Bonn and Co.'s New Double Winder.

We have received from the above firm one of their newly-designed

twin winders, whereby the two rubber motors on model aeroplanes are wound up, from the nose of the machine, at the same time. In the case of twin-screw models this custom may now be considered to have become universal, since it possesses so many advantages, and naturally takes only half the time. The winder



itself is well designed, and is both light and very strong, with well cut cogs. The two wire extensions, as the illustration shows, are long, and thus enable the winder to be used with machines of different make and varying size. To those not already possessed of such an article we can most certainly unreservedly recommend it.

KITE AND MODEL AEROPLANE ASSOCIATION.

Official Notices.

British Model Records.

Single screw, hand-launched	Duration	J. E. Louch	95 secs.
Twin screw, do. ...	Distance	R. Lucas	590 yards.
	Duration	G. Hayden	137 secs.
Single screw, rise off ground	Distance	W. E. Evans	290 yards.
	Duration	J. E. Louch	68 secs.
Twin screw, do. ...	Distance	L. H. Slatter	365 yards.
	Duration	J. E. Louch	2 mins. 49 secs.
Single-tractor screw, hand-launched	Distance	C. C. Dutton	266 yards.
	Duration	J. E. Louch	91 secs.
Do., off-ground	Distance	C. C. Dutton	190 yards.
	Duration	J. E. Louch	94 secs.
Single screw hydro., off-water	Duration	L. H. Slatter	35 secs.
Single-tractor, do., do.	Duration	C. C. Dutton	29 secs.
Twin screw, do., do.	Duration	L. H. Slatter	60 secs.
Engine driven off grass	Duration	D. Stanger	51 secs.

Competitions.—The Women's Aerial League Model Competition took place on Wimbledon Common, July 25th. There was a good entry, the results being: 1st, Mrs. F. Holt, K. and M.A.A.; 2nd, Miss May Bond, Leytonstone; 3rd, Miss Doris Bond, Leytonstone; 4th, Mrs. F. Jannaway, K. and M.A.A.; 5th, Miss D. Nokes; 6th, Miss Hersham, Leytonstone. The best flight was made by Mrs. Holt, viz., 67 secs., and she won the silver-back brush, mirror, and comb in case, Miss M. Bond taking the case of 6 teaspoons, and tongs, and Miss D. Bond, biscuit box; all prizes presented by the Women's Patriotic Aerial League. The Ladies' Kite Contest was postponed on account of the gale that was blowing at 900 ft., only one lady being able to manage the official kite at that height; therefore to prevent injury to competitors or spectators it was postponed, although it would have been an ideal day for the men.

Model Competition.—Mitcham Common, August 15th, at 3.30 p.m.; entries close Saturday, August 8th. The Wakefield Competition, for biplane models rising from the ground under their own power (open to the world). Prizes: 1st, silver challenge cup and gold medal (presented by Alderman Sir Charles Wakefield, D.L., J.P.); 2nd, silver medal of the Association; 3rd, bronze medal of the Association. Tests: Duration, stability in flight. Marks: Duration actual seconds, stability 25. Additional rules governing this competition: 1. Competitors may submit biplanes of any kind. 2. Models must not weigh less than 10 ozs. 3. Competitors must be at the judges' flag at 3 o'clock; those not present at that time will be disqualified. 4. Models to be timed from time of leaving ground till time of landing, or till they disappear from the observer's view. 5. Competitors will not be allowed to replace any part (or parts) without the permission of the judges. 6. Each competitor is entitled to three trials if time permits.

27, Victory Road, Wimbledon. W. H. AKEHURST, Gen. Hon. Sec.

AFFILIATED MODEL CLUBS DIARY AND REPORTS.

CLUB reports of chief work done will be published monthly for the future. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

Aero-Models Assoc. (30, CORRINGHAM RD., GOLDERS GREEN).

AUG. 1ST, competition for r.o.g. duration twin-screw for members only. Hampstead Garden Suburb fields, 3 p.m. Prize 5s.

Monthly Report.—July 4th: The Windsor Model Aero Club scratched for the competition for the Farrow Shield. Mr. C. C. Claffin with h.l. tractor, aspect ratio 12½ to 1 very large tail, made flight of six mins. timed by some of the club's official observers. The distance was seven-eighths of a mile. Mr. Claffin also made a fine flight with his twin-screw r.o.g. of 112 secs. Mr. Hinsley did 65 secs. with his twin-screw tail machine. Others flying, Mr. Johnson (r.o.g. tail machine); Mr. Fletcher (h.l. twin-screw), 115 secs. July 17th, Mr. Hinsley with twin-screw h.l. Mr. C. C. Claffin (tractor). Mr. Nichols (first tractor hollow spar), 35 secs. h.l. Mr. C. C. Claffin has been elected secretary.

Bristol and West of England Aero Club (Model Section) (42, ROYAL YORK CRESCENT, CLIFTON, BRISTOL).

THE Summer Model Aeroplane Competition will be held at Bristol International Exhibition to-morrow (Saturday) at 3 p.m.

Croydon and District Ae.C. (82, CLARENDON ROAD, CROYDON).

MEMBERS are requested to note that the date for the second round of Farrow-Shield Competition is Aug. 22nd.

Monthly Report.—During the past month it has been pleasing to note that both the flying and the workmanship of the models made by members have been raised to a much higher standard than in the past. It is quite fair to say that a

flight of under 40 secs. is now a rare occurrence. Several club records have been broken, the most notable achievement being 96 secs. off ground with a twin-screw r.o.g. by Mr. D. Pavely. Mr. F. Carter has been out with his first single-screw r.o.g., doing durations from 40 to 50 secs. This is the first machine of this type to be made by a club member, and it is evidently Mr. Carter's intention to establish a record. Good durations have been obtained by the various Farrow Shield models. Mr. H. Smith had his new F.S. model out for testing last week, but after a flight of 67 secs. rain prevented further tests. The competition for the Wakefield Cup takes place on the club's ground at Mitcham on Aug. 15th, and the secretary would like to see as many members as possible competing.

Leytonstone and District Aero Club (23, WOODHOUSE ROAD).

AUG. 3RD. A model flying meeting will be held with the Leyton Fire Brigade sports at end of Church Road at 2.30; 8-oz. models, 4-oz. loading; entry free. Anyone wishing to enter for competition kindly give name on field to sec. Prizes, 3 silver medals; other prizes according to number of entries. At committee meeting on the 23rd, five silver medals were offered for competition; competition to be announced later.

Monthly Report.—The new month opened with a record hydro., C. Hersom obtaining 100 secs. off water; it was being tuned up for the official record, which he now holds. F. Gratton 4-oz. tractor, Mr. Wharmsby r.o.g. doing quick climbs with 65 secs. Bedford out with special steering device for figure 8. H. G. Bond r.o.g. Scout Mason, a new promising member, tuning up r.o.g. for junior competition on the following Saturday at Wimbledon Common and obtained first place. W. Hersom working on 2-cylinder engine which we hope to see out very shortly. Mr. Midson has nearly finished his Handley Page biplane stream pusher, span of top plane 7 ft. T. Kimpton r.o.g. Other members out: L. O'Leary, Mr. B. Ludlow, Midson, Doris, May, W. Hersom, F. Hawthorn, J. Mason. July 12th, at 6.30, Wharmsby out with doped r.o.g. F. Hawthorn, W. Hersom, B. Ludlow at 10.30. S. C. Hersom with hydro. 9½-oz. doing 80-90 secs. Wharmsby r.o.g. Mason with his prize r.o.g. doing 40 secs. Osborne built-up fuselage canard type 30 secs. At the steering competition on the 11th, at Wimbledon, Mr. Louch won first, silver cup, and Mr. H. Bedford second, silver medal, both of Leytonstone, Mr. Mason winning junior, also of Leytonstone. On July 10th, at 6.30 a.m., Mr. W. Hersom with tractor hydro. single-screw. Bedford, Bond, Wharmsby and S. C. Hersom flying heavy loading "buses. After "grub" T. Kimpton was out prompt trying his free-wheel propellers, and much improves his model which is in the 80's. Wharmsby r.o.g. Lamplugh, F. Hawthorn, Mr. Midson working hard on H.P. pusher biplane working for the Shelley Cup. Osborn r.o.g. built-up streamline fuselage. Mr. B. Ludlow twin, Hersom with "Toby" mascot. On the 25th, three ladies entered for the Ladies' duration competition on Wimbledon Common, Messrs. May and Doris Bond winning second and third respectively. Miss Hersom broke her spar in one of her flights. July 26. Owing to high winds little flying has been done, Wharmsby flying speed model. Mr. T. Kimpton free-wheel props Morane-type wings, looping the loop, and upside down flying, which amused all spectators. Bedford r.o.g. Others out: Midson, F. Hawthorn, Bond, Ludlow. Will all correspondence be sent to 23, Woodhouse Road, Leytonstone, until further notice.

Paddington and Districts (77, SWINDERBY ROAD, WEMBLEY).

AUGUST 1ST, Open Competition for Paddington Cup. Winner to hold cup for one year and wins silver gilt medal, second receives silver medal, and third bronze medal. Any competitors not weighed in by 4 p.m. will be disqualified.

Monthly Report.—July 4th, the competition in the first round of the Farrow Shield, Paddington v. Wimbledon, resulted in a lucky win for Paddington after a very exciting contest, the result being in doubt until the last two flights. The competitors' names and their durations were published in the K. and M.A.A. notice in FLIGHT, July 11th. Tea for all competitors was provided by the club, after which a club competition was held, the same models being used. The wind having dropped, much better flying was seen. Mr. W. E. Evans won first prize with an average of 83½ secs., Mr. D. Driver only 1 sec. behind, and prize; Mr. C. C. Dutton, 69 secs., 3rd; Messrs. H. Woolley, R. Bird, and A. Rasmussen also flew well. On July 11th, 18th, and 25th, trials were held for Paddington Cup models, a silver and a bronze medal being offered for the best averages on any of the three dates named. The result will be announced later. On the 18th, Mr. D. Driver made an average of 60 secs., his best flight being 73 secs. Mr. W. Evans' model landed prematurely with the wind, an inglorious end to the machine, which made two records last November. Several Farrow Shield models were again out, Mr. H. Woolley's heavy weight doing 60 secs. Messrs. Driver and Evans had a friendly duel, the final result ending in a victory for Mr. Evans, with a fine flight of 95½ secs. r.o.g., Mr. Driver's durations were, 82½, 80, 90, and 93½, and Mr. Evans' 80, 85, 86, 88½, 88½, 90, 90, 93, and 95½. On the 25th, the best single propeller durations were Mr. D. Driver's 65 secs., Mr. W. Evans 60 secs., and Mr. R. Bird 51 secs. (very windy). Members will please note that the tests for club certificates have been altered from a single flight to average of three flights. The tests are, therefore, as follow: Superior certificate, 90 secs. av.; first class, 60 secs. av., and second class, 30 secs. av.

Reigate, Redhill and District (THE COTTAGE, WOODLANDS AVENUE, REDHILL).

Monthly Report.—A fair amount of flying has been done during the month, the chief event being the flying for first round of Farrow Shield Contest. Although the Club's opponents (Stony Stratford) scratched, the club flew as arranged, and some good flying resulted; the highest average being 68½, the lowest 39½. The official observers were, Messrs. S. G. Wilson, H. V. May, and J. W. Burghope, stop watch being used. Mr. Kennard was unfortunate, in that his machine "landed" in Earlswood Lake, and a fine swim was made by Mr. Hoyle to rescue it. A competition was arranged in connection with this round, a silver medal being presented to the one who made the longest individual duration during the round; the winner proved to be Mr. Key after a splendid flight of 72½ secs. The club goes forward to the second round, and it is hoped that members will make every effort to improve their durations. Mr. Sutton has had his Olympia tractor "in dock" recovering, &c., and has had much improved flights, durations of about 35 secs. and a flight of 227 yds. after circling, the height also being much improved. He has also been making demonstration flights at Gatton with same. With his 8-oz. r.o.g. mono. he has had about 60 secs. Mr. Hooton 75 secs. with 8-oz. r.o.g. mono., very steady and high flying. Mr. Hoyle 55 and 60 secs. with Olympia r.o.g. mono. Mr. Funnell 50 and 60 secs. with 8-oz. r.o.g. mono. Mr. Kennard 50 and 60 secs. with 8-oz. r.o.g. Mr. Norton has had 60 secs. with 9-oz. r.o.g. mono. and tested new screws on same. Etrich tractor overhauling in shop. On July 18th members turned out at short notice at "Wiggie" in connection with men's own sports, and some very good exhibition flying was done, much interest being caused by Mr. Funnell's "looper." Several members are now designing some improved "model" tractors.

Sheffield Ae.C. (41, CONISTON ROAD, ABBEYDALE, SHEFFIELD).

A NUMBER of the members are now on the construction of hydro-aeroplanes and other machines in anticipation of taking part at the Burton-on-Trent Water Carnival and Fête on August 29th.

Monthly Report.—June 30th, at general meeting, held at the Palace Restaurant, the following presentations were made: Master C. Dewnap, the Colver Cup and silver medal for r.o.g. machines, as well as a silver medal presented by Mr. Marcus D. Manton for tractor biplanes; Mr. W. H. Bagshaw, bronze medal, as second prize in Colver Cup Contest. Owing to the changeable weather members have been experimenting indoors instead of at the aerodrome.

Stony Stratford and District Kite and Model Ae.C. (OLD STRATFORD).

AUG. 18TH, monthly competition, combination formula rules, r.o.g. contest for M.S.C. Special meetings to be announced later. Buckingham members please see branch secretary.

Monthly Report. June 27th, Palmer at Buckingham improved the single screw h.l. record with a flight of 279 yds. and 47½ secs. Mennell improving his own figures to 46 secs. Members' general meeting July 8th; subject: single-screw models; excellent and instructive evening. Arrangements made regarding special prizes and competitions. It was also decided to reduce the subscription until the close of year (Oct. 31st) to 1s. 6d., as an incentive to members to join. Excellent flying being made during the month by Messrs. Mennell, Palmer, Cherry, Williams, Neve, Elmes and the secretary. On July 11th, Palmer successfully attacked the duration again in the single-screw class and raised it to 60½ secs. Mr. Palmer was using a boat-shape fuselage machine with a twin motor. Meeting at Buckingham July 3rd. Subject: r.o.g. models. Good time was spent. July 25th, in a gusty and gale of wind. At Buckingham, first competition under combination system of marking introduced by Mr. Mennell. Result: 1st, E. Brown, 52½ marks; 2nd, B. Williams, 37½ marks; 3rd, W. Palmer, 36½ marks. Best flights, 66½ secs. and 255 yds. by Mr. Brown. The wind was very rough.

Wimbledon and District (165, HOLLAND ROAD, W.).

The tractor competition, which was announced for the 25th, was postponed owing to the high wind, and will now be held on August 1st at 3.30. August 2nd, flying at 11 and 3. August 3rd, same times. Prizes will be awarded to (1) the machine making the greatest duration during the day, (2) the machine making the greatest number of flights of over 35 secs. duration. Further details will be announced later.

Monthly Report.—On July 4th, the club team flew against Paddington in the first round of the Farrow Shield, and were defeated, the respective averages being 38 and 43 secs. After the contest the team were hospitably entertained to

tea by the winners. Several new machines have been out, both twin-screws and tractors. Great interest has been aroused by the flights of Mr. W. G. Smith with his small 30-in. A frame twin-screw; several durations of over 100 have been accomplished, the model getting up to a great height and gliding very flat. Mr. Davis has also done some high flying with his new hollow-spar twin-screw machine. Mr. Hayden has been experimenting with tractors, and has produced a very successful machine, but unfortunately it was lost over houses on the 26th, after a flight of 2 mins. at a height of 100 ft. Mr. Easdale's double-surfaced plane tractor has been out on several occasions, and when tuned up does 70. He is now experimenting with a lightly-loaded tractor biplane, which is expected to do very well. Messrs. Laing, Boniface, Tucker, and Smith have all flown their tractors, although the high winds have been very unfavourable for this type of machine. Several big machines will be out shortly, as Messrs. Laing and Hayden are building 1 lb. hydros, and Mr. Tucker's 24-oz. Martinsyde is nearing completion. Four compressed air machines are in course of construction, and their trials will be followed with interest.

UNAFFILIATED CLUBS.

Edinburgh Aero Club (13, HERMAND TERRACE, EDINBURGH).

AUG. 8TH, Club demonstration of model flying at the Marine Gardens, when the muster is expected to be about 30 machines. It is hoped that this event will do much to arouse interest in model aviation in Edinburgh, and the club members are tremendously keen on making it a success.

Monthly Report.—Strong gusty winds have interfered with the Saturday meetings. A number of new machines have appeared in view of the forthcoming demonstration at the Marine Gardens. Messrs. Saidler and Fiddes had out their long-expected tractor biplanes. Messrs. Watt, Ramsay, Nesbit, Clark and Harrison have flown h.l.s., and Mr. Harrison has been busily engaged in smashing up lightweight r.o.g.s. Mr. Hartley flew a small tractor mono., and Mr. Watt has been testing a single-screw biplane (Bragg-Smith type). Considerable interest was aroused on the 25th by the appearance of a 4-ft. span Caudron flown as a kite, the work of Messrs. Calder and Harrison. It climbed amazingly and performed some excellent glides with the strings slacked off. It is proposed to fly it at all meetings as a species of club banner. A proposal to acquire a club workshop is under consideration.

Finsbury Park and District (66, ELFORT ROAD, Highbury, N.).

AUG. 1ST, h.l. distance, all types and duration; h.l. for tractors, r.o.g. for twin-screws, at Tottenham Marshes, 5.0 p.m.

Monthly Report.—The past month has been a very successful period for this club, and the general class of flying is steadily improving. The competition meeting on July 4th was a success, Mr. B. H. Barnard, Morane-Saulnier mono., 1st with 147 points, closely followed by Mr. Savage, canard type, 143 points, and A. Richards, 114 points, the other competitors following on closely. The events were:—1. Speed. 2. Duration. 3. Target. In the latter Mr. Savage's model alighted within 4 yards of "target." Messrs. G. Wren, H. Mullen and S. Pratt have been flying square wing tractors, and S. Gibbs Morane tractors, all flying well. Several models of the Morane type have made their appearance this month, and all have been successful, and this type seems to be very efficient. Mr. B. H. Barnard's Morane-Saulnier has proved itself a veritable stunt flyer, executing "cartwheels" of about 15 ft. diameter, and looping the loop with the greatest ease. On July 11th attempts at weight carrying were carried out, and Messrs. B. H. Barnard and H. Mullen succeeded in carrying a third of their model's weight in flight for about 20 secs. July 18th, S. Gibbs out with Caudron, tractor monoplane; G. Wren, Deperdussin mono.; A. Richards, Morane mono.; Mr. B. H. Barnard, Morane-Saulnier looping and bomb dropping; H. Mullen, Deperdussin mono.—all tractors and flying well. Mr. A. Richards machine, after a high 50 secs. flight, glided into the top of a high tree. Mr. B. H. Barnard's bomb-dropping experiments were very interesting; the machine recovered its equilibrium almost immediately after dropping the weight. Good flying was also done by Mr. Clay, Caudron mono., and A. Richards, Sopwith biplane. Flying on July 25th was almost impossible owing to 35-40 m.p.h. wind. In moments of calm, Mr. R. Mullen, with Martinsyde mono., S. Gibbs, Morane tractor, and A. Richards all obtained about 20 secs. flights, but for the most part little flying was done, although there was a record attendance.

Ilford Model Ae.C. (83, ENDSLEIGH GARDENS, ILFORD).

AUG. 2ND, flying as usual 10 a.m., at "aerodrome," Hog Hill, Hainault Forest, Chigwell Row (weather permitting). Members are specially asked to get their machines well tuned up for the Model Flying Exhibitions at Barking Park on Aug. 20th, when the patron, Mr. B. C. Hicks, will give scientific flying demonstrations, including "looping the loop." The programme for the model flying performed by this club will appear in FLIGHT at an early date. Messrs. Ajax Co., of Ilford, have kindly offered this club a prize for duration. The competition will be held after the Barking Exhibition. The above club's entry in the Ilford Hospital Carnival, held on July 11th, caused a large amount of interest all along the route. The aeroplanes were attached to bicycles and looked most realistic.

Monthly Report.—July 6th: No official flying meeting owing to some of the members constructing machine for the Ilford Hospital Carnival. July 12th: Wind boisterous. Mr. F. Wood made some excellent flights with his hydro-monoplane. Mr. Tupper's tractor flew amazingly well, obtaining about 50 secs. duration. Messrs. Jenkinson, Hartnall, Nicholls and Hyett also obtained excellent durations. July 19th: Wind gusty and strong. Messrs. F. Wood and A. C. Tupper had the misfortune of having their machines "land" in the "hydro" lake, but did not suffer much damage.

Liverpool Aero Research Club (62, CEDAR GROVE, LIVERPOOL).

AUG. 1ST, model flying, Stanley Park, 4 p.m. till dusk. Aug. 3rd, 10.30 a.m. till 1 p.m., at Stanley. Also at 3.30 p.m., at Sefton Park, h.l. duration competition for certificates. Aug. 6th at Lister drive 8 p.m.

Monthly Report.—July meetings had been arranged to enable visits to be made in the shape of a tour throughout the district, and should do much to popularise the club. Sefton Park, June 27th, B. Tear, A. G. Pugh and G. H. Kilshaw h.l. "canards," fair durations. July 4th, Stanley Park. T. W. Bennett gave one of his finest kite flying exhibitions, box, wing-box and bird, ranging from 8 ft. 6 ins. down to 4 ft., and in addition doing fine flying with back-swept 1-1-0-Pa. B. Tear trying new 1-1-0-Pa. G. H. Kilshaw testing triangular covered-in body canard and flying h.l. Etrich plane at good heights. The third mid-week meeting Bennett and Tear at Shiel Park, G. Kilshaw and Beale at Lister drive, crowds compelling stoppage of proceedings. The finest flyings took place at Magul, July 11th, when members attended a festival and gave exhibition flights. Models had to be restricted to circle flying owing to tall tree surroundings, heights of over 150 ft. being easily accomplished. Best durations were T. W. Pennett 35 secs., W. Beale 30 secs., B. Tear 32 secs., G. H. Kilshaw 38 secs., the latter's model suddenly making off on one occasion and landing a ½ mile away. July 18th at Lister drive ground, W. Beale, B. Tear, G. Kay, T. W. Bennett and G. H. Kilshaw, the two latter doing splendid high flights, best durations respectively being 39 and 37 secs., Tear having out new long-distance model.

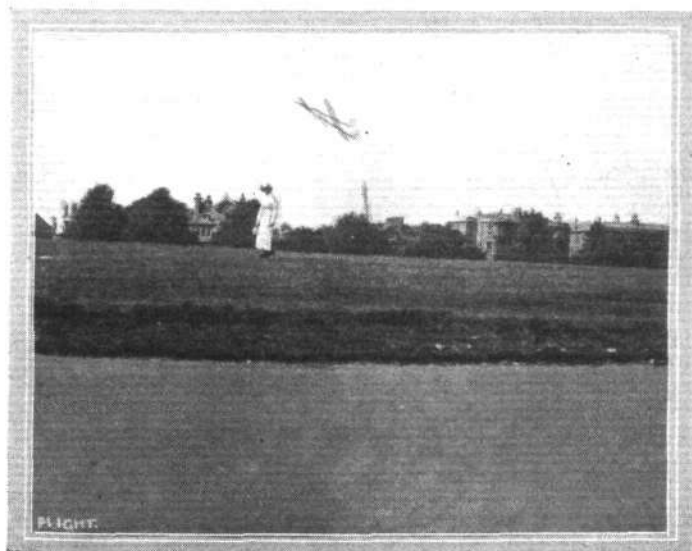
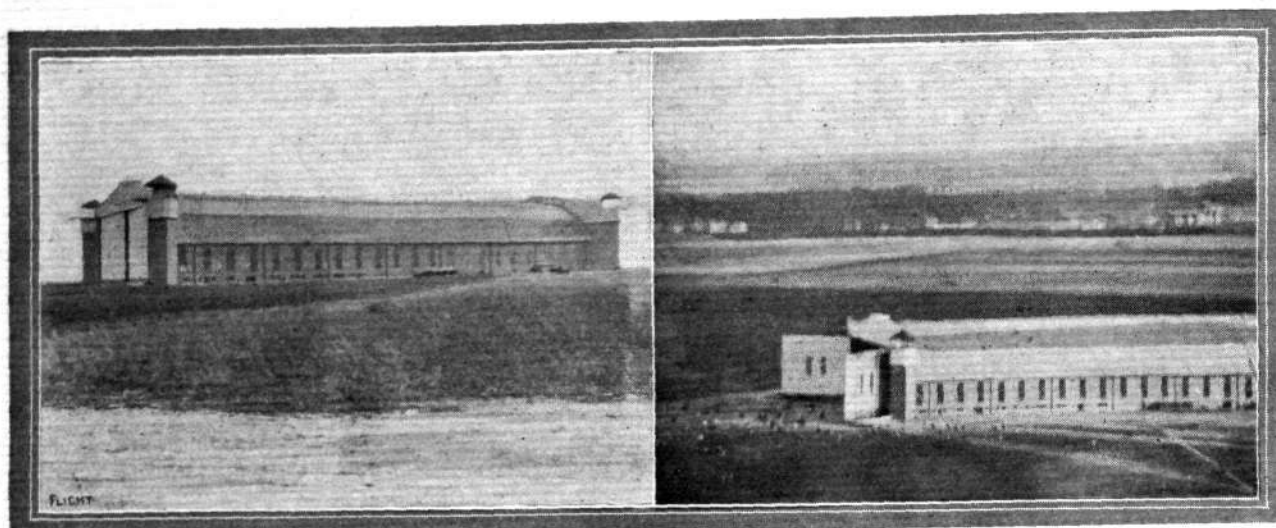


Photo by Mr. R. M. Haines.

Mr. R. T. Howse's twin screw R.F.G. canard monoplane which won the first prize for the R.F.G. duration event (66 secs.) at the Spring Competition, 1914, of the Bath and Somerset Aero Club.



THE HUGE AIRSHIP SHED AT LEIPZIG.—Note the watch towers at each corner. The length of the shed is 600 ft. and breadth 240 ft. It contains offices, waiting rooms and a restaurant, and can house three dirigibles. On the right, the shed is seen as taken from the "Sachsen" airship, the photographs being secured by Sir John Shelley.

Scottish Ae.S. Model Ae.C. (5, DOUNE QUADRANT, GLASGOW).

No official meetings will be held during August owing to holidays.
Monthly Report.—On July 4th at Paisley, Mr. Ian S. Ross was experimenting with a twin-screw h.l., getting 51, 57, and 60 secs. duration. Mr. G. Pinney's (0-1-1-P2) best duration, 30 secs. Mr. Jas. C. Balden testing a "looper," and had the rather unique experience of a propeller bursting in mid-air, the model landing very well considering. July 11th, at Maxwell Park Pond, the third and final competition for "The Arthur Corbett Cup," for waterplanes was held, Mr. T. Graham being the winner. Mr. Graham, having the greatest total of points for the three competitions held, is therefore the holder for one year. The Cup carries with it the honour of "Club Champion." The hon. joint secretary, Mr. Jas. C. Balden, would be glad to have particulars of any petrol, steam, or compressed-air motors suitable for model work.

S. Eastern Model Ae.C. (154, PECKHAM RYE, S.E.).

The next South-Eastern Trophy Competition will be held in September, and is to be a duration contest for r.o.g. (grass) single propeller monoplanes. The number of entries already to hand exceeds a dozen, and is sufficient to guarantee that, barring accidents, this competition will be one of the most successful of the "Trophy" series. The complete rules will be published very shortly, and members should note that full particulars, entry forms, and receipts for this year's subscriptions can be obtained from the hon. sec. at the above address.

Monthly Report.—During the past month most members have been very active and an all-round improvement in the efficiency of the models is one of the most noticeable results. In order that his efforts to popularise model aeronautics may attain a wider field, Mr. A. B. Clark, the club's hon. secretary, has entered the field of journalism, and carries with him the club's best wishes and thanks. Although this appointment will necessitate him relinquishing the office of hon. secretary, he intends to remain one of the club's most active members, and to continue to be chairman of the committee. He is succeeded by the assistant hon. sec., Mr. S. E. Grimestone.

Southend, Westcliff and Leigh Model Aero Club (96, VALKYRIE ROAD, WESTCLIFF-ON-SEA).

Monthly Report.—Flying meetings Wednesday evenings and Saturday afternoons. Good flights were obtained during the month by E. Woodfield, who passed for his *bracket* with 40 secs. on a small twin-screw mono. Steady flights have been accomplished by E. Louis, winner of Padgett prize; D. Plaistowe, single-screw, second; E. Woodfield, silver medal. E. Proctor broke record with single-screw tractor, 74 secs.



Bank Holiday Flying at Brooklands.

ON August Bank Holiday, there will be two cross-country flying handicaps at Brooklands, one at 3.45 p.m., and the other at 5 p.m. Although definite particulars are not available, the distance for these races has been reduced in order to enable spectators to follow more easily the progress of the competitors. A strong entry has been secured, including the following:—80 h.p. Sopwith biplane (Mr. Hawker), 80 h.p. Sopwith biplane (Mr. Pixton), 100 h.p. Sopwith biplane (Mr. Mahl), 50 h.p. Blériot (Mr. Gower), 45 h.p. Blériot (Mr. Wilberforce), 60 h.p. Martinsyde biplane (Mr. Blatherwick), 80 h.p. Bristol biplane (Mr. Sippe), 100 h.p. D.F.W. biplane (Mr. Dukinfield Jones), and 100 h.p. Albatros biplane.

Mr. Alcock Visits Wolverhampton.

ON Tuesday last week Mr. Alcock left Brooklands, accompanied by Harold Lane to fly to Wolverhampton in order to deliver a magneto at the Sunbeam's works. Running into a thick fog he was obliged to land at Snitterfield, near Warwick, but when it cleared a little he was able to get on to Dunstall racecourse, Wolverhampton, his flying time being 1 hr. 46 mins. for the 112 miles.

Whilst at Wolverhampton, Mr. Alcock gave exhibitions of flying and passenger carrying to the Sunbeam workmen, who were keenly interested in the Sunbeam-engined Maurice Farman machine.

On Saturday he started back for Brooklands in a gale, but had to land at Snitterfield again as Mr. Lane was troubled with air sickness. With the wind behind, the journey to Snitterfield, 34 miles, took 19 mins. At Snitterfield pilot and passenger had a very hospitable reception, and in return Mr. Alcock gave some pretty exhibitions of flying. The remainder of the journey to Brooklands was completed on Monday.

Vickers Ltd., at Shepherd's Bush.

ONE of the most fascinating and interesting displays at the Anglo-American Exhibition, Shepherd's Bush, is that of Messrs. Vickers Ltd., in the Land and Aerial Transport Section. There are a large number of beautifully-finished models of different types of war vessels which have been constructed by Messrs. Vickers for British and foreign Governments, as well as an array of various types of guns. No less interesting are the wonderful small tools and the Vickers single-battery train lighting system, which is shown in operation, generating current for lighting the stands, and also for operating the different tools, &c. Each evening there is a cinematograph display, illustrating the many branches of activity of the great Vickers concern, among the films shown being one depicting work at the Vickers flying school at Brooklands, while another gives some splendid impressions of motor boat racing, &c.

An Echo of Mr. McClean's Nile Flights.

IT may not be generally known that the waterplane which Mr. McClean flew up the Nile in the early part of the year was doped with Cellon. It has recently been necessary to remove some of the fabric, and it is extraordinary to notice the effective way in which it has stood up to the hard usage. In spite of the fact that the machine was left exposed to the atmosphere for the whole of the time it was on the Nile, the condition of the fabric is extremely good.



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